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# AIR CONDITIONING AND REFRIGERATION

*News*

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## Inside Dope

By George F. Taubeneck

**Barber Shop Quartets**  
**Aesop Died Too Soon**  
**Who'll Be Waiting for You?**  
**15 Years of Fun**  
**It's a Great Gang**  
**Relaxing a Rule**  
**Fun in Pittsburgh**  
**Forbes Has a Good Aim**  
**And a Good Idea**

### Barber Shop Quartets

G. H. Stoffer of Carrier's Detroit office tells us that we missed a real treat last week by not hearing George Dent sing in a performance of "Rigolletto," presented by the Michigan Opera Co.

Mr. Dent, who sells Carrier products in Bay City, Mich., does have a wonderful voice, as a good many of us remember from hearing him sing several years ago at a Detroit convention.

This fact is respectfully called to the attention of Basso Profundo Herman Spoehrer, of Spoehrer-Lange, St. Louis.

In recent years Herman has organized and led some terrific barber-shop quartets which have entertained several different refrigeration conventions. Although Herman has uncovered a high-tenor "find" in Nelson Cooper of DuPont's Electrochemicals Div., he could well use a "coloratura" tenor with the range possessed by young Mr. Dent.

Er, Mr. Dent . . . do you know "Hail to the Orange," and can you hit that upper-case note?

### Aesop Died Too Soon

And while we're on the lighter side, here are a couple of anecdotes for you:

Within the firm which employs the writer is a young person who delights in telling animal stories which make some of the rest of us scream. We give you an example:

After the Biblical flood had subsided, and Noah's Ark was resting on comfortable ground atop Mt. Ararat, Noah opened the door and let all the animals out.

They all swooshed out in the twinkling of an eye—all save two little snakes who huddled together in a dark corner of the Ark.

"Hey!" yelled Noah, when he spied them. "The flood is over. We're here. The other animals have gone out to start life anew. Why don't you go out and multiply, too?"

"We can't," responded one of the snakes, meekly. "We're adders."

### Who'll Be Waiting for You

Gathered together around the big Director's Table, all the department heads were giving out with their two-bit's-worth regarding next year's budget.

"Why should we spend so much for advertising," demanded one Little Blind, "when people will be lining up to buy the product we make?"

"Yes, they'll line up to buy it," agreed the Old-Timer, "but in whose line?"

### 15 Years of Fun

In January of this year, "Dope" passed a small milestone—15 years of plugging along as Editor of the NEWS.

Somehow, it's difficult to imagine any other job which would have been so pleasurable.

Chief among the pleasures has been the opportunity to enjoy some wonderful friendships, all over the country—and around the world.

The refrigeration industry has attracted hundreds of high-calibre men, and the best part of it is that these

(Concluded on Page 6)

## York Institute To Offer Broad Training Setup

By Phil B. Redeker

YORK, Pa.—To meet the need of a specialized educational program in engineering, production, sales, service, and factory management, York Corp. on Jan. 31 formally opened its Institute of Refrigeration and Air Conditioning.

Designed to cover every phase of York's activities in the refrigeration and air conditioning field, the Institute will provide courses ranging in duration from a five-year cooperative engineering course run in conjunction with Pennsylvania State College to a two-week's "refresher" course.

The Institute is housed in a building, leased especially for this purpose, which is located a few blocks from the company's main offices. It has a potential capacity of 1,000 students annually.

One phase of the Institute's program that will probably be of most interest to those in the field are the courses, of about six weeks' duration, that will be given to employees of York distributors on application and sales engineering, merchandising, and service work.

For the time being, two divisions of the Institute are being reserved exclusively for returning York veterans. These are the comprehensive apprentice training courses, covering 13 different trades, and the York-Penn State cooperative course, both of which are accredited under the Veterans Administration school and training program. Under the "G.I. Bill of Rights" students in these courses will receive all or a part of the funds needed to pay the educational expenses, depending on the length of their service.

York's President Stewart E. Lauer, speaking at the dedication, declared that only through intensive and continuing study and training can those in the rapidly expanding refrigeration and air conditioning field hope to pass on to the public the benefits of the newest advances in design, manufacturing, and service.

Mr. Lauer in his talk also revealed that the Institute program ties in with some new thinking and plans by the York management with regard to the merchandising of its refrigeration and air conditioning equipment—plans which call for greater emphasis on independent distributors.

"This plan for an educational program didn't come up overnight," said Mr. Lauer. "It came out of some of our experiences in training Navy personnel during the war, and out of the plans of the corporation's committee on postwar planning."

"We now have greatly increased manufacturing capacity. In the Grantley plant we can now produce three times our wartime peak, and eight times our prewar peak. In our West York plant we can produce at least the equivalent of our wartime peak."

"Our sales and promotion departments have completed a 21-months' study of 86 market categories for

(Concluded on Page 16, Column 1)

## Outside Interests Buy Brunner Stock In Expansion Move

UTICA, N. Y.—In a re-organizational move 118,000 shares of Brunner Mfg. Co. stock have been purchased by a group of underwriters and fully subscribed. Shifts have also been made in the top executive line-up.

George L. Brunner, former president and former principal stockholder of the company, has been elevated to the post of chairman of the board. George L. Brunner, Jr., his son, becomes president. A. G. Zumburn, who has been with the company 21 years and has been treasurer for some time, has been named executive vice president and general manager.

(Concluded on Back Page, Column 2)

## Contractors to Draft Calif. Licensing Law

SAN FRANCISCO—Drafting of a proposed bill to provide for regulation of the local refrigeration industry through a state board will be undertaken by the Refrigeration Contractors Association of Northern California, with a view to presenting it to the next Legislature.

Purpose of the bill would be "to provide stability, set up procedures for certain lawful price controls and to license all refrigeration contractors," the association announced. Drafting of the measure has been assigned to the public relations committee, one of eight standing committees appointed by President A. K. Turner for 1946.

This project is one of several in procedure will be submitted at the meeting.

(Concluded on Page 33, Column 2)

## Freezer Mfrs. May Vote On Standards Feb. 26

WASHINGTON, D. C.—Annual meeting of the Farm and Home Freezer Manufacturers Association will be held Thursday, Feb. 26, at the Hotel Sherman in Chicago, it is reported by E. G. Vail, executive secretary of the group.

New officers and directors for the ensuing year will be elected, and the association will consider reports of committees on standards, trade practice rules, membership, and trade shows.

The committee on standards has spent considerable time in endeavoring to perfect standards of test procedure, for the purpose of assuring satisfactory performance of farm and home freezers. This proposed test

## Refrigeration May Permit Replacement Of Severed Limbs, Doctor Believes

NEW YORK CITY—Through use of refrigeration, surgeons in the future may possibly be able to replace legs or arms severed in accidents, perhaps some time after the accidents occur, hints Dr. Frederick M. Allen, a pioneer in refrigeration anesthesia.

Discussing broad aspects of "Therapeutic Uses of Low Temperature," at the fifty-second annual meeting of the American Society of Heating & Ventilating Engineers at the Commodore hotel here, Dr. Allen said that it has been proved possible, experimentally, to "amputate a dog's leg, keep it in a refrigerator for 24 hours, and then restore it in position and usefulness. Future surgery may therefore hope to replace severed limbs."

## Home Precipitron Tops Product Show Of Westinghouse

NEW YORK CITY—First public showing of its new household model Precipitron, an electrostatic air cleaner, which may be priced between \$250 and \$300, was one of highlights of a special product preview held by Westinghouse Electric Corp. at the Waldorf-Astoria hotel here recently.

In addition to obtaining a look at the full line of Westinghouse products for the home consumer, press representatives heard talks on the present and probable future status of the appliance business by B. W. Clark, vice president in charge of sales; J. H. Ashbaugh, vice president in charge of the electrical appliance division; and Irving W. Clark, manager of the better homes department.

Another "first" was the showing of Westinghouse's new Walt Disney technicolor film, the "Dawn of Better Living," which emphasizes the need for adequate wiring as more and more appliances are incorporated in the present and future homes.

The modern age of electrical living now dawning in American homes will

(Concluded on Page 4, Column 1)

## Gemco to Produce Store Conditioner

ST. LOUIS—General Engineering & Mfg. Co. here has announced that it is starting production on a "space air conditioner" of a design generally known in the trade as a packaged "store cooler."

General Engineering & Mfg. Co. has been a producer of machine tools, production machinery, and oil field equipment. The firm was established in 1917.

While engineering and specifications details are not yet ready for release, it is known that the unit will provide the functions of cooling, dehumidification, cleaning, and circulation of the air.

Aluminum will be used for the intake and outlet grilles, and the company claims that the unit will incorporate a number of "firsts" in design.

## Price Boost Later May Hit Dealer Taking Orders Now

DETROIT—With many indications now pointing to a possible general increase in price levels, appliance dealers are being urged by distributors to use caution in taking orders for future deliveries.

It has been suggested that dealers tag their merchandise with the

(Concluded on Back Page, Column 2)

## Truman's Policy on Wages-Price May End Strikes

Price Increase Seen as  
Only Answer to Demand  
For Boost in Wages

WASHINGTON, D. C.—President Truman on Feb. 8 expressed confidence that a new government wage-price policy, which will probably be announced by the weekend, would provide the formula that would settle the steel strike, and probably the electrical workers' strike also.

The nub of the formula is that wage increases of some fixed percentage—in the range of 17 to 18%—would be considered as "government approved" pay increases.

What this would mean in effect would be that companies granting wage increases would not be required, as they now are, to wait six months before applying for offsetting price relief, but could make an immediate request to OPA for an adjustment in the ceiling price of their products.

Acceptance of this formula by labor and management would inevitably mean higher prices on refrigeration and appliance products.

That a settlement of the strikes by acceding to labor's demands for wages increases is irrevocably tied to a price increase was brought out by G-E's President Charles E. Wilson, in a statement to reporters before

(Concluded on Back Page, Column 1)

## OPA Wants Controls For 18 Months More

ATLANTIC CITY, N. J.—If the OPA has its way, price controls will continue until June of 1947 under an 18-month program which calls for gradual "decontrolling" at six-month intervals.

This program was outlined by Geoffrey Baker, deputy administrator for price, OPA, speaking at opening sessions of the National American Wholesale Grocers Association here last week.

The OPA has planned early and orderly removal of price control, but no total action is possible while demand continues substantially in excess of supply, declared Mr. Baker. Thus far, he said, 700 luxury and

(Concluded on Page 33, Column 1)

## R. H. Money Joins Reynolds Metals Co.

LOUISVILLE, Ky.—R. H. Money, refrigeration expert, has joined the Parts Division of the Reynolds Metals Co. as an advisor, W. G. Reynolds, vice president, announced Feb. 5. He will be stationed in Louisville, Ky.

Prior to joining Reynolds, Mr. Money was for 15 years with the Crosley Corp. in Cincinnati, for 10 years as chief refrigeration engineer, and for the five years thereafter as manager of Crosley's electro mechanical engineering, a department which engineered and built pre-production models of many military developments including radar equipment.

Before becoming associated with Crosley, Mr. Money was 10 years with the Rex Mfg. Co., Connersville, Ind., first as service engineer and later as assistant chief engineer.

He is a vice president of the American Society of Refrigerating Engineers, a member of the Engineering Society of Cincinnati, and holder of approximately 40 patents and patent applications, all in the household refrigerator field.

## CORRECTION CHANGE IN DIRECTORY CLOSING DATE

Due to continued production delays on a national scale, and the consequent holdup of manufacturers' plans for 1946 products, it has been necessary to change the closing date for the 1946 Refrigeration and Air Conditioning Directory information returns and advertising copy from March 15 to April 15.

The March 15 date shown in advertisements on pages 24 and 25 is incorrect.



**Bowen**  
REFRIGERATION  
SUPPLIES, INC.

Atlanta Jacksonville  
Tampa Charlotte  
"The South's Largest  
Refrigeration Supply Jobber"

HEAT TRANSFER EQUIPMENT

**MARLO**  
COIL COMPANY  
SAINT LOUIS, MISSOURI

**SORENG**

- WIRING HARNESS
- SWITCHES
- RECEPTACLES

ARE ENGINEERED TO  
MEET YOUR PRODUCTION  
REQUIREMENTS

**SORENG MANUFACTURING  
CORPORATION**

1907 Clybourn Ave.-Chicago 14, Ill.

## Good, Clean Air Means Good, Clean Sport(ing Goods)



Desirous of keeping its store and stock clean, as well as impressing customers, the American Sporting Goods Co. of St. Louis went "all out" for air conditioning when it built its first retail store shown at left. In the system is a Precipitron to remove dust. At right a workman is shown fitting a fluorescent tube in the new G-E "slimline" lighting fixture in the ceiling.



### Air Conditioning, Electric Air Cleaner, Modern Lighting Feature New St. Louis Sports Store

ST. LOUIS—Air conditioning combined with various electronic devices is doing three outstanding jobs for the new American Sporting Goods Co. retail store here.

This "Department Store for Sportsmen," a seven-story retail store, is said to be the largest sporting goods organization in the country, with three floors devoted to retailing, two to wholesale and jobbing activities, and the remaining two to shipping, warehousing, and receiving.

Prior to the December opening of the new building, the firm was strictly a mail order and wholesale house. When it decided to enter the retail field nothing was spared to make the new store one of the nation's most efficient from a merchandising standpoint.

The building is completely air conditioned. "Our conditioning system was designed to first keep all departments comfortably cooled or warmed according to season," President Har-

old Siebens stated. "Second, to aid our new lighting system, which gives maximum footcandle light due to removal of all dust in the air, and third to protect merchandise against dust and soiling which requires mark-down sales or other profit leaks."

"We consider air conditioning a merchandising tool just as we do lighting and display fixtures, and have used it accordingly."

The 50-ton system, distributing cooled air through a series of mixing chambers supplied by a basement compressor, is the first large-scale postwar installation of air conditioning in St. Louis. It is particularly valuable from a lighting standpoint through inclusion of a Westinghouse precipitron in the single air intake. The precipitron removes 96% of all dust particles normally expected in the atmosphere.

This is combined with the new G-E "slimline" fluorescent lighting system, utilizing long, slender fluorescent tubes in egg-crate ceiling fixtures throughout the store. These are designed to maintain at least 50 footcandles of illumination over every merchandise display and over all work space in the store, as well as in wall niches and "shadow box" displays on the retail floor.

With removal of dust, light meter tests show that 40 to 45 footcandles in an average atmosphere become better than 50 footcandles with removal of all dust. American Sporting Goods Co. is using this first installation of the new fluorescent lamp to create much attention, leaving the first floor brightly lighted until midnight each night, and using the store itself as a "display window."

There are 28 300-watt spotlights immediately behind the front windows for 300-footcandle "punch lighting" to attract attention.

The air conditioning system is provided with a defroster arrangement which distributes warmed air over the windows to keep them clear in the coldest weather.

Tests also show that merchandise left on open display is totally dustless, requiring far less individual care such as wiping with clothes or dusting of shelves. Where most large stores of this type are resigned to various percentages of markdowns due to soiled stock, American Sporting Goods Co. does not anticipate as much as 1% per year.

The "artificial atmosphere" inside the store can be kept at unusually precise levels. Thermostat controls on each floor permit varying the temperature independently to compensate for outside heat or cold, and the lighting system burns at two levels to match bright sunny days or gloomy, dark periods.

### Wallace Martin Joins Reamer Sales Staff

COLUMBIA, S. C.—Announcement has been made here of the appointment of Wallace Martin as sales representative of the Westinghouse division of the Reamer Ice & Fuel Co. and Reamer Industries.

Mr. Martin, who last October received his discharge after more than three years' service as a Navy lieutenant, also will act as sales representative for Carrier air conditioning and heating here.

Westinghouse sales and service will be handled at present through offices at the Reamer plant in Seaboard Park. Plans are underway for the erection of offices, service, and display rooms as soon as conditions permit.

### Westinghouse Announces Precipitron for Homes

PITTSBURGH—The new home model Precipitron air cleaner which Westinghouse Electric Corp. will introduce at a price between \$250 and \$300 is no larger than an ordinary household refrigerator, yet has sufficient air-cleaning capacity for a six or eight room house, Westinghouse claims.

Plans for mass production of the Precipitron home central unit are rapidly being put into effect, according to Walter C. Goodwin, manager of the Precipitron department. It is expected to be available by the third quarter of this year and will be marketed through regular trade channels.

While this is the first time the Precipitron will be offered to the general public, home performance of the unit has been proved on the basis of more than 100 pilot installations made in the Pittsburgh area before the war.

Home owners report the operating cost for the Precipitron to be from 80 cents to \$1 per month," Mr. Goodwin explained, "and housewives said the clean air from the Precipitron practically eliminated dusting chores, that the floors and furniture remained clean for much longer periods, and that the life of draperies, curtains, and other furnishings was trebled."

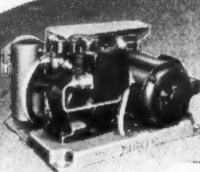
To demonstrate the electrical operation of the device, Westinghouse engineers constructed a glass encased model which was displayed with the home unit.

The only requirements for Precipitron installation are: (1) the air heating system must be designed so the air circulated through the house can pass through the unit; (2) an ordinary electric outlet must be available; and (3) a water connection and drain must be provided so the plates may be cleaned.

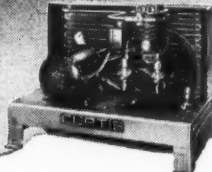
Mr. Goodwin said the Precipitron would probably be distributed through heating and ventilating dealers inasmuch as contractors for that type of material would make the installations.

The Westinghouse air cooling unit will be distributed through similar channels and is expected to be in mass production shortly. Exact prices have not been determined.

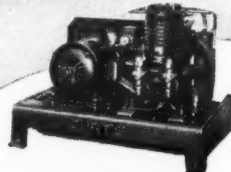
Universally Known for  
Dependable,  
Economical  
Performance



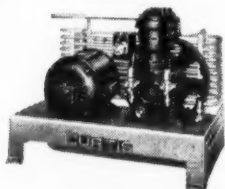
1/4 H.P. (cabinet type)



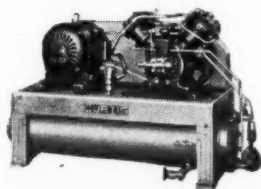
1 H.P. Air-Cooled



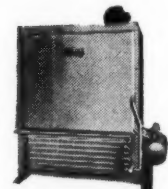
3 H.P. Air-Cooled



2 H.P. Water-Cooled (counterflow)



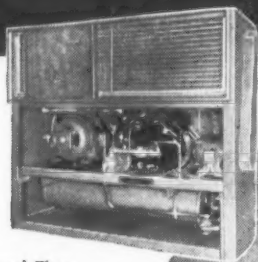
15 H.P. Water-Cooled Shell and Tube



Saturated Air-Condenser

# CURTIS

## Commercial Refrigeration and Air Conditioning Units



Central Type  
Air-Conditioner



3 and 5-ton  
Packaged  
Air-Conditioner

In installations throughout the world, meeting the widest variety of requirements, Curtis equipment is well known for delivering satisfactory, trouble-free service throughout an exceptionally long machine life.

Curtis offers every user a complete line of Commercial Refrigeration Units—48 water-cooled condensing units (1/3 to 30 H. P.) and 45 air-cooled condensing units (1/4 to 3 H. P.). Curtis Packaged Air Conditioning Units needing only water and electrical connections to install, are made in 3 and 5-ton sizes and Curtis Remote Type Units in 7 1/2, 10, and 15-ton capacities.

Advanced engineering, precision manufacture, and high-quality construction are characteristic of every Curtis unit. Each reflects the wide experience of 92 years of successful manufacturing, plus wartime progress in research, development, and production.

Whatever your own requirements are, it will pay you to write for bulletins and information on the complete Curtis line.

**Curtis Refrigerating Machine Division**  
of Curtis Manufacturing Company  
1912 Kienlen Avenue • St. Louis 20, Missouri

### Special Announcement

After January 1st, 1946, the La Crosse Novelty Box Mfg. Co., La Crosse, Wisconsin, will be known as the LA CROSSE COOLER COMPANY.



Look for the LA CROSSE emblem for Assurance of Quality and Performance.

In the West it's  
**REFRIGERATION SERVICE INC.**  
Pacific Coast Supply Jobber  
since 1928

Your letterhead will bring our latest catalog—also our House Organ.

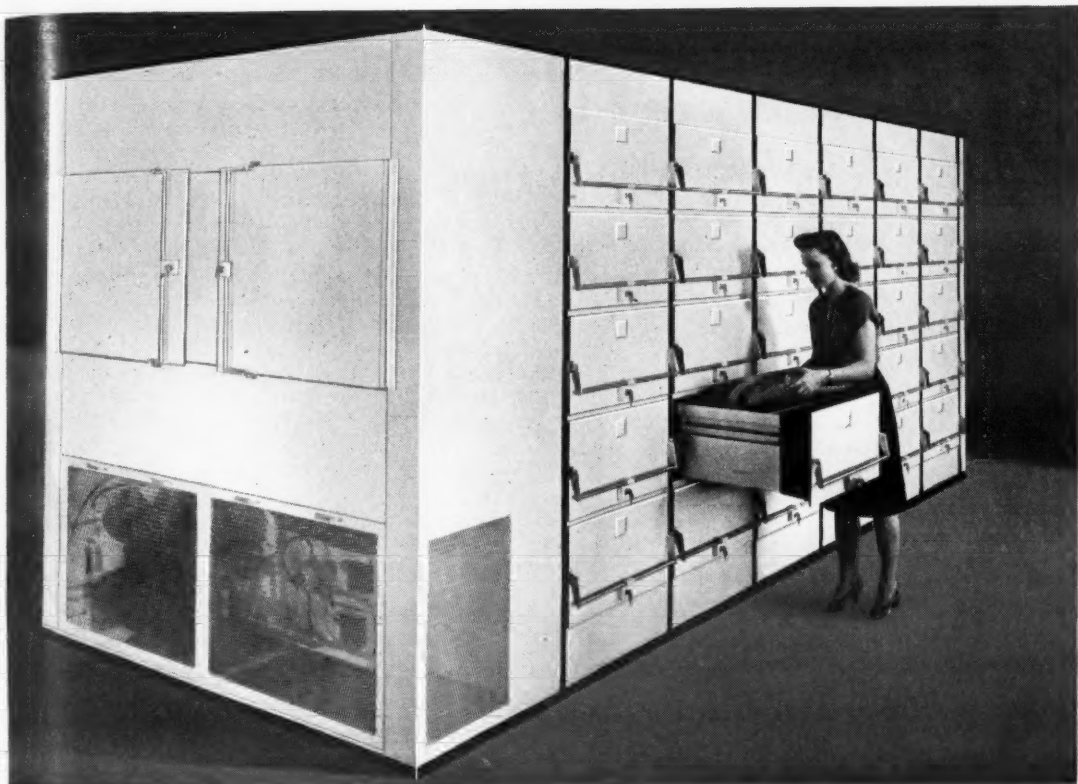
"The Liquid Line"



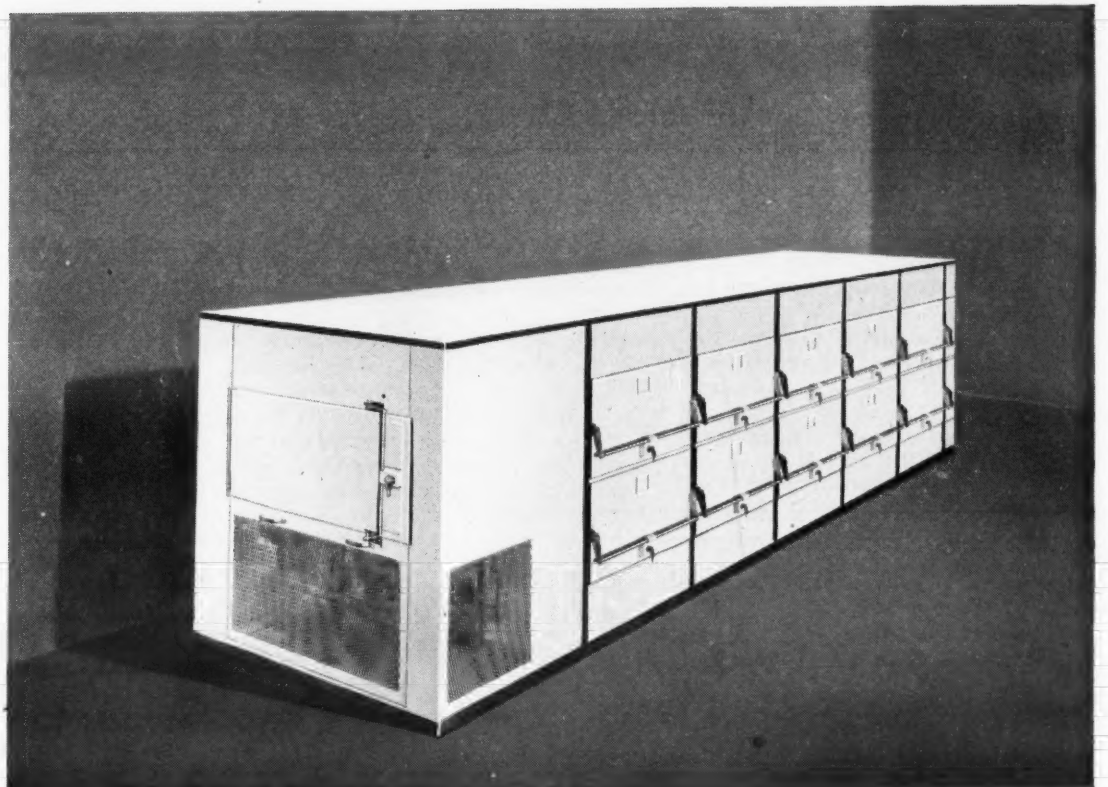
3109 Beverly Blvd.  
LOS ANGELES 4, CALIF.



# Here's Frozen Food Storage that's *10 Ways* better!



**ICEBERG COMMERCIAL UNIT.** For food stores, locker plant operators, hotels, hospitals, apartment buildings. Capacity, 60 to 360 cu. ft. net, 10 to 60 drawers. Dimensions, each section, 7 feet 6 inches high, 7 feet 4 inches wide, 30 inches long; total length of six-section unit, 18 feet. 2 HP air- or water-cooled condensing unit to take care of 60 six cu. ft. drawers totaling 360 cu. ft.



**ICEBERG UTILITY UNIT.** For farmers, rural dwellers, frozen food stores. Capacity, 12 to 60 cu. ft. net storage space; 2 to 10 drawers. Dimensions, 10 drawers, 46 inches high, 49 inches wide, 15 feet 4 inches long; each section, 30 inches long.  $\frac{3}{4}$  HP air-cooled condensing unit to take care of 10 six cu. ft. drawers totaling 60 cu. ft. capacity. Counter height so top can be used for display or work space.

**Difference #1**—Iceberg freezes the food and not the people! The only portable, sectional, completely self-contained, fully insulated unit that gives ready access to foods without having to enter a zero temperature room.

**Difference #2**—Iceberg keeps foods conveniently segregated for ready access. Name cards identify individual customer's locker.

**Difference #3**—Iceberg permits access to locker by each renter 24 hours a day, including Sundays and holidays—without having a man in attendance.

**Difference #4**—Iceberg maintains safe zero temperature at all times, even while defrosting. Food need not be removed from drawers while defrosting.

**Difference #5**—Iceberg permits introduction of warm food in any single drawer without raising temperature of

any other drawer. Transfer of odors from drawer to drawer is eliminated.

**Difference #6**—Iceberg is constructed sectionally for quick, easy installation. 24 hours is all the time needed.

**Difference #7**—Iceberg is portable. If locker operator finds greater profit possibilities in another locality, the entire installation can be easily moved.

**Difference #8**—Iceberg has top suspended, double roller bearing pull-out drawers, that open easily without sticking.

**Difference #9**—Iceberg drawers are equipped with an automatic bar lock which assures complete sealing of drawer when renter locks it.

**Difference #10**—Iceberg frozen storage unit has available a blast freezer for quickest freezing of foods.

## ICEBERG

Manufactured by

**ICEBERG REFRIGERATED LOCKER SYSTEMS, INC.**

EMPIRE STATE BUILDING, NEW YORK CITY

**DEALERS**—Write today. If you want to know all about the profit possibilities in Iceberg Refrigerated Locker Systems,\* write us today. Give type of business, lines carried, credit and banking reference. We will have our nearest distributor get in touch with you.

\*Reg. U. S. Pat. Office



## Westinghouse - -

(Concluded from Page 1, Column 4)

provide jobs for more than 600,000 men and women and will mean an annual business of \$4,500,000,000 during the next five years, B. W. Clark forecasts.

"When we began planning this preview some months ago, we neither realized nor even imagined our country would be plunged into industrial strife, but no matter how serious our troubles seem today, the future of this business of electrical living is vast and certain. Nothing can stop it," Mr. Clark said.

### RECONVERSION PROBLEMS

A more detailed analysis of production difficulties was presented by Mr. Ashbaugh, who pointed out that "reconversion" of manpower to normal peacetime efficiency has been one of the Division's knottiest problems. He said that although the division's predicted reconversion schedule had been met up to the time of the electrical strike, and employment was only 400 below the prewar peak of 5,500, yet production was 40% below prewar output, due to the necessity of retraining employees, shortages of materials, and the general problems involved in reconversion.

These factors, added to a cost-of-production increase of 25%, and losses due to lack of parts, substitution of materials, and extra handling, have served to "almost double" production cost of the appliances so far produced, said Mr. Ashbaugh.

In a financial analysis of the busi-

ness of electrical living, Mr. Clark pointed out that improved wiring in new and remodeled homes would cost more than \$215,000,000 yearly; small and large appliances, from lighting fixtures to refrigerators, will have a market demand of more than \$2,000,000,000 a year; expanded electrification and increased power demands for the appliance-conscious public will require annually from \$1,000,000,000 in 1946 to \$2,000,000,000 in 10 years for electricity, and new capital investment by the utility companies to provide this power will exceed \$1,000,000,000 a year.

He conservatively estimated that 150,000 will be employed in the making of home appliances and radios; 125,000 in producing generating and distribution equipment required to bring electricity to the nation's homes; 80,000 in the maintenance, installation, and operation of electric utilities; 30,000 in the wiring and rewiring of homes, and 250,000 in the distribution and sales of appliances.

### HOUSING PROSPECTS

"It is generally agreed that we need, within the next 10 years, seven to 10 million housing units of all kinds. Shortage of men and materials will surely limit us for several years, but it is hoped 350,000 to 400,000 housing units, from single homes to great apartments, can be erected in 1946 and perhaps we can step up beyond the 700,000 mark in 1947. The value of this housing should be around \$6,000 average per unit," Mr. Clark said, and continued:

"The business of electrical living starts with building, because concealed within the walls must be the wires, switches, and protective de-

vices to provide current for lighting fixtures and appliances. At a probable average cost of \$160 per home, this preliminary new house wiring should amount to a volume in materials, labor, and other costs of upwards of \$65,000,000 per year.

"Added to this are the requirements of existing homes. Almost all of these are inadequately wired or improperly protected for the use of the loads to be placed upon them by the rapid increase in electric utilization. At least \$150,000,000 per year for several years should be expended in wiring costs in the remodeling of our millions of existing homes."

Mr. Clark estimated the annual demand for electrical appliances in these new and existing homes at: electric refrigerators, 3,000,000; electric ranges, 800,000; washing machines, 2,500,000; vacuum cleaners, 2,000,000, and radios, 5,000,000.

### OVER A BILLION A YEAR

"At average expected prices," he said, "these items total \$1,300,000,000 in sales volume per year for five years. If we add the business in appliances not mentioned—such as flat irons, roasters, toasters, coffee makers, room heaters, sun and heat lamps, lighting lamps and fixtures—here is an annual market of more than \$2,000,000,000 a year in utilization devices alone."

Mr. Clark pointed out that the radio estimate is for 1946. The annual number of sets sold is expected to decline thereafter, but this will be compensated for by increased unit value of television models.

Explaining how the principles of electrical living could be made available to home owners in all income

brackets, Irving W. Clark, manager of the Westinghouse better homes department, and host at the preview, said:

"Too often the term electrical living has been used only in connection with deluxe installations of electrical equipment, installations that can be afforded only by persons of far more than average means. This is a fallacy. Actually electrical living must be divided into four definite degrees of electrification."

He described the four basic economic levels as "thrifty," "budget," "ideal," and "deluxe," and showed the degrees of improvement in electrification which each level entails. The Better Homes Department worked out this flexible yardstick as a guide for prospective home builders in planning their electrical wiring and equipment, Mr. Clark explained.

## Distributors Get 18.44% Increase Factor for Westinghouse B-7-46

MANSFIELD, Ohio—Price increase factor for distributors of model B-7-46 refrigerator manufactured by Westinghouse Electric Corp. has been set at 18.44% over the manufacturer's delivered price, according to OPA.

This factor, however, is to be used by the distributor only in the event he cannot determine his ceiling price for sales to dealers by two other methods.

The preferred method calls for the distributor to use the price "which will yield the distributor the same percentage of total dollar margin between the manufacturer's price to him and the dealer's price for resale to ultimate consumers as he received during the period Oct. 1 to 15, 1941, in connection with the sales of the most comparable model to the same class of purchasing dealer."

By another method the distributor may use the ceiling already established by OPA for the sale of this model by his "closest seller of the same class." The latter is defined as the distributor located nearest to the first distributor who has a ceiling price for the identical model.

## OPA to Keep Tab on Manufacturer's Output

WASHINGTON, D. C.—To insure manufacturers' producing about the same percentage of lower-priced consumer goods that they did in 1941, OPA has instituted a system requiring monthly reports from makers of 16 categories of products, including electrical appliances.

Under Supplementary Order 146, which went into effect Feb. 5, manufacturers of the items covered in the order must submit to OPA a report listing production figures and other information for the base period and then continue submitting current reports on the fifteenth of each month thereafter.

Affected are manufacturers of household refrigerators, electric and gas ranges, radios and radio-phonograph combinations, household laundry equipment, vacuum cleaners, small electrical appliances, and other consumer goods such as sewing machines, pianos, clocks, etc.

If the manufacturer is already submitting, or has submitted, such reports to the Department of Commerce, Bureau of Census, he need not submit these reports to OPA headquarters, the order states.

In addition to filing the reports the manufacturers involved are required to maintain the following records for inspection by OPA:

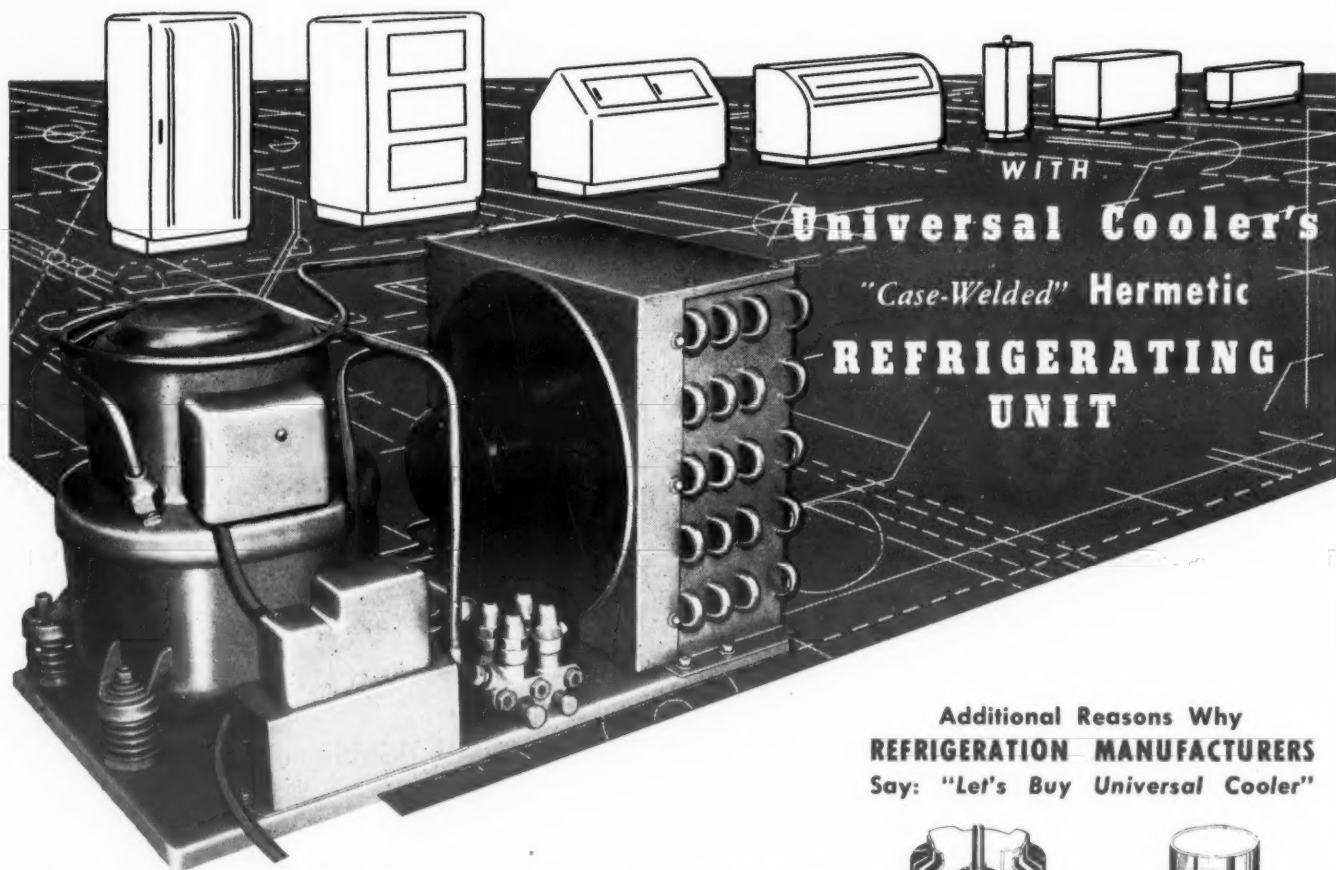
(1) If he was doing business during the base period for his industry, all of his records showing the number of units and the dollar volume of all shipments made during the base period.

(2) Records showing the number of units and the dollar value (by category, classification, and model number) of his production during each month beginning with the month covered by the first monthly report filed, and all shipments to each class of purchaser during each month. In addition, if the monthly report form for the particular commodity requires information as to inventories, the manufacturer must also keep records containing that information.

The following table lists the appliances affected by the order and shows the numbers of the report forms plus the base periods:

Commodity	Monthly report form number	Base period report form number	Base period
Home and auto radio receivers, radio-phonographs combination, and electronic phonographs and television	M41a M32F	6065-2593 6065-2594	Jan.-Dec. 1941 July 1940-June 1941
Electric household ranges	M51E	6065-2595	July 1940-June 1941
Domestic cooking appliances and heating stoves (except electric)	M52B	6065-2597	July 1940-June 1941
Domestic mechanical refrigerators	M39A	6065-2598	July 1940-June 1941
Domestic laundry equipment (washing machines, ironers, dryers)	M32E	6065-2600	July 1940-June 1941
Portable vacuum cleaners	M32A	6065-2596	Jan.-Dec. 1941
Small electric appliances	6067-2632	6067-2633	July 1940-June 1941
Small electric appliances, supplement			

## Longer Life .. BETTER PERFORMANCE for Your Refrigerated Equipment



One big reason why Universal Cooler Hermetics are creating new standards of performance in the refrigeration industry is Design Detail. This painstaking attention to the most minute detail of design and construction results in longer service life and better operation on every type of installation, commercial or domestic.

Down in the heart of this outstanding refrigerating unit, for example, are the main bearings running just as smoothly and with just as little friction and wear as good bearings in a fine watch. Why? Because the material is right, the design is right and they have been machined right. They are babbit-faced, steel-backed . . . precisely located to give perfect support to the rotating shaft

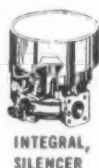
at all times and to insure equalized loading, thus completely eliminating the possibility of any concentrated wearing action. Their extra length, properly machined surface, size and many other features provide further conclusive assurance that your Universal Cooler sealed Hermetic Unit will operate long and satisfactorily.

The complete story of the Universal Cooler "Case-Welded" Hermetic Refrigerating Unit will interest every refrigeration manufacturer interested in providing dependable, economical service to his customers. If you are a manufacturer, write today for complete information and find out why leading fixture manufacturers are saying . . . "Let's Buy Universal Cooler"

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PHOSPHOR BRONZE CONNECTING ROD BEARINGS



THERMOSTATIC OVERLOAD CONTROL



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## "Vest Pocket"

### EVAPORATOR PRESSURE REGULATOR

Simple, compact, lightweight — the Alco Evapotrol is expertly engineered for smaller installations:

- to prevent freezing in beverage and water coolers
- to take advantage of maximum evaporator capacity
- for accurate control of a single evaporator in a multiple system — by maintaining constant evaporator pressure, independent of fluctuations in suction pressure or load.

Bulletin 760 will bring you detailed data on Evapotrols with flare or solder connections; for larger regulators request Bulletin 179.

Atomic-hydrogen welded power assembly.

Built-in manual shut-off valve for gauge connection.

Internal mechanism easily removed for cleaning by removing two cap screws.

Completely moisture-proof pressure adjustment.

Minimum number of moving parts.

Tight seating, oil-resistant composition seat.



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## Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)  
high-calibre men are real gentlemen, and good company.

Competitors are pals. In off-duty hours they're grand companions. And we wouldn't have missed the experience of clubbing around with some of these fine fellows for anything in the world.

### It's a Great Gang

Another source of genuine pleasure connected with this job has been the privilege of associating with the grand people here at the NEWS.

We believe that here, under this new roof, are some of the most talented young men (and women) to be found in any small group anywhere.

Living together, working together, and relaxing together, we've led an unusually close-knit existence. And it has been swell, every minute of it.

The writer wasn't fortunate enough to have brothers. But some of the grand lads here at the NEWS have helped supply that lack.

Some of us have been together a long time, and the comradeship has ripened into a feeling that surely is akin to brotherhood.

### Relaxing a Rule

And now, with your indulgence, a few more subjective remarks:

For a long time we've maintained a policy of not publicizing in the NEWS those occasions when the Editor talks before an industry group.

One reason is that canny association people sometimes figure that by putting an editor on a program, that meeting will get extra attention and publicity in the columns of his publication.

Invitation of that sort don't appeal to us, so we've made it quite clear by our own policy of "censorship" that when one of our men speaks at a meeting, only routine publicity will be involved.

Another good reason for this policy is that most of us can't get away from work often enough to make many speeches.

Chairmen of program committees have a tough job lining up speakers. They deserve a lot more credit than they ever get. Persuading half a dozen or more busy men to leave their work and homes, and put up with the irritations incident to traveling these days, requires considerable skill and diplomacy.

And if it becomes discovered that a speaker apparently has plenty of time to go traipsing around the country shooting off his mouth, he quickly gets swamped with invitations.

### Fun in Pittsburgh

The above rather personal observations are merely preliminary to saying that we're going to relax the "no publicity" rule for once.

Reason: It affords an opportunity to publish a funny letter from Jack Forbes.

On Jan. 31, at the William Penn hotel in Pittsburgh, the Electric League of Western Pennsylvania gave us a chance to sound off on a few things.

Some 322 members and guests were present, including some of the finest merchandisers in the business. (Pittsburgh has a remarkable group of keen-minded distributors.) "Pip" Danforth, able Westinghouse distributor, is president of the group.

Before the meeting, Mr. Danforth and Jack Smalley, secretary of the association, sent out a flashy broadside announcement.

This broadside contained the words "you dare not miss this speaker."

In due time the announcement reached the desk of Jack Forbes, president of the Superior Valve & Fittings Co.

Jack reacted at once, and wrote as follows:

### Forbes Has a Good Aim

"A rather flashing mailing piece of the Electric League of Western Pennsylvania brings notice of your anticipated presence in Pittsburgh on Thursday, Jan. 31, 1946, for luncheon at 12:00 noon in the Ballroom, William Penn Hotel, etc., etc., and there's something about not daring to miss Mr. Taubeneck.

"Having a pretty good arm and some over-ripe eggs and tomatoes, I don't know whether I'll take a chance on hitting or missing, but when it comes to daring then I'll put one forth myself—don't you dare come to Pittsburgh without spending a little time with us here at Superior.

"I see that your chin keeps protruding and your hair keeps receding, and I'm beginning to think that the picture shown is a favorite likeness of 'his nibs' himself.

"Several of us here at Superior will try and be down to heckle you and listen to some more of your hot air. Wid Siegfried, Ken Newcum, and myself may be in New York on the 31st, but if we're here we'll attend the luncheon and hope to see you in addition thereto.

Best personal regards.

J. S. FORBES,  
President

### And a Good Idea

Upon returning, there awaited a second letter from Mr. Forbes—this one containing an excellent idea for the promotion of frozen foods, to wit:

Editor:

I'm dictating this promptly after having returned from the luncheon at which you spoke and to suggest that nowhere in anyone's talks on the merchandising of frozen foods, prepared or unprepared for the table, has been mentioned the advantages to be gained by lack of vermin, mice, rats, cats and dogs, cockroaches, etc., because I doubt that they would attempt to carry away, no less consume on location, any foodstuffs having a temperature considerably below zero or even the freezing point.

It's my understanding that if there's no deterioration present then there is no odor present and having no odor there would be little attraction, and perhaps some of the foodstuffs would even be unrecognizable to them.

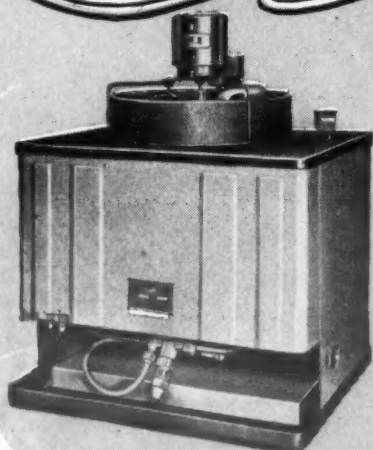
Of course, these frozen food cabinets in which this material would have to be stored would have a metal casing and would be well insulated, and perhaps would have a sealed porcelain lining. Hell, I don't need to tell you about those things—I could have confined this to saying that maybe the omission of reference to the lack of vermin should be taken for granted rather than brought to anybody's attention. I subscribe to the thoughts that frozen foods will be sold in stores as clean as the best kept of the hardware stores today.

It's not amiss to say, George, that I was delighted at your seeming self-confidence and the free and easy way in which you delivered your talk. It was time well spent and I brought the tomatoes back with me.

J. S. FORBES

## WHY WAIT? GET SET FOR A BIG YEAR WITH THESE NEW 1946 PROFIT MAKERS

**AMCOIL**  
Jobbers can deliver  
**RIGHT NOW!**



### UTILITY FOOD CONDITIONER

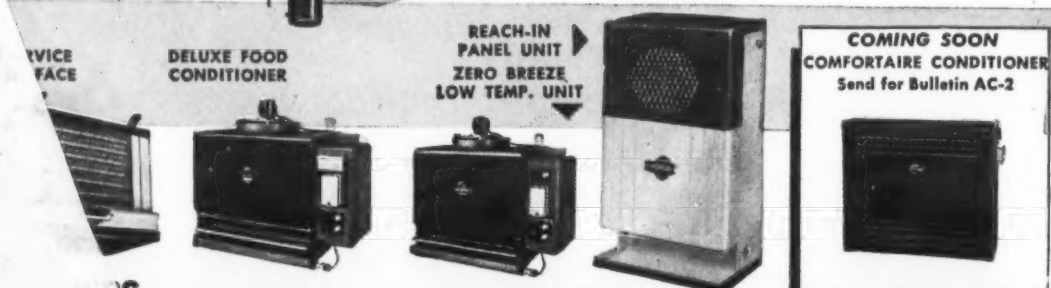
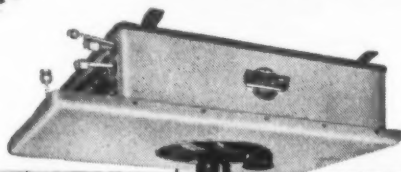
Nothing else like it! A "natural" for profits because it does a **double job**: cools and prevents dehydration, too! When prospects know the Food Conditioner story—they **BUY**. Tell it to 'em:

ONLY with the **AMCOIL built-in humidifier**, plus 36° F. temperature, can foods be properly preserved. ONLY an **AMCOIL FOOD CONDITIONER** does this double job. Sell it to 'em!

The **AMCOIL Food Conditioner** will pay for itself over and over again by preventing shrinkage of perishable foods... by eliminating the meat-trimming that trims profits... by retaining the natural freshness and bloom of meats. The Market is **BIG**. The Profits are **BIG**. Get set for a **BIG Year**. Order from your **AMCOIL Jobber Now!**

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## 'Air Conditioned Planes' Believed Vital To Success of Air Borne Shipment of Foodstuffs

### Pioneer Shipper Recommends Refrigeration in Stores, Too

SAN FRANCISCO—After eight months of test-flying 30 plane loads of fresh California produce to major eastern cities, Ralph E. Myers, pioneer air-shipper of California's Salinas valley, is believed to have charted the course for future airborne shipments.

From his test flights, Mr. Myers gleaned some definite ideas as to what the future food cargo plane should be like. The craft must be able to carry at least 18,000 pounds of payload, its inside space should be square-cornered for efficient storage of cargo, the cargo space should be "clear through," unhampered by wing construction, and it should be designed for loading and unloading at average truck heights, he states.

Provision for heat and cold control within a range of 36-42° must be provided, the test flights indicated. The previous theory that cold temperatures of high altitudes would be sufficient to keep perishables from spoiling was disproved by Mr. Myers' test flights. Stops for refueling, force-downs in bad weather, and the customary relatively low-flying altitudes of 9,000 and 13,000 feet made for too high temperatures, he explained.

#### PRE-COOLING CALLED A 'MUST'

Pre-cooling of cargoes was established as another "must" as a result of Mr. Myers' experiments. Previously there was a general belief that costs could be shaved by eliminating pre-flight refrigeration. The food plane of tomorrow, according to Mr. Myers, should be equipped with air conditioning equipment to refrigerate or heat the plane during flight, depending on the type of cargo being transported.

General advice offered by Mr. Myers to the trade is this: "We must revolutionize our methods of handling so-called fresh fruits and vegetables so that consumers won't continue receiving produce 10 to 15 days old, piled haphazardly in unprotected bins on retail stands."

"If we don't, it will be an invitation to the quick freezers and dehydrators to take over all or part of our perishable business. Refrigerated display or sales bins are going to be a future must for all retailers."

The all-important query—How much extra will consumers pay for food shipped by air—was answered in consumer polls conducted by Mr. Myers after the food had been eaten.

"Housewives gladly, and without show of sales resistance, consistently would pay an average of 10 cents a pound more than for produce marketed through other forms of transportation," stated Mr. Myers.

#### APPRAISING THE COST FACTOR

When prices rose above the 10-cents-more level, signs of opposition on the part of buyers increased, but the foods still sold. For example, airborne grapes brought 44½ cents a pound in one eastern city where the normal price was 27 cents. In another city, strawberries sold for 39 cents against 29 cents regularly, and cantaloupes for 29 cents a pound instead of 9½ cents.

Acceptance of higher premiums, Mr. Myers found, is determined chiefly by quality, condition, appearance, and flavor of airborne produce in comparison with normally shipped food.

There is, however, according to Mr. Myers, a problem of re-educating housewives in order. It was found that shoppers frequently refused to

buy flown lettuce in practically field-fresh condition because they thought it was "green."

"Other housewives often passed up vine-ripened, fully matured cantaloupes for far less desirable melons, because they were accustomed to the appearance of days-old rail-shipped fruit."

It is up to the retailers to overcome this handicap of offering food so fresh and revolutionary that buyers lack confidence in it, says Mr. Myers. He urges "aggressive merchandising" combined with "intelligently planned promotion and consumer education."

Getting back to the problem of prices, he believes that shipping rates are the key which will open the way to economies for the consumer. "Obviously," Mr. Myers said, "rates must be reduced as rapidly as possi-

ble, without causing financial disaster to carriers, if air transport of perishables is to take place on any appreciable scale."

Two years ago airlines figured fruit and vegetable freight could not be handled for less than 70 cents a ton mile. Now some experiments have indicated a rate of 10 cents to carry one ton one mile may be feasible.

In his test flights, Mr. Myers used the lowest published tariff, 26 cents per ton mile, but discovered that "airborne merchandise, under the most favorable circumstances, cannot and will not be shipped in more than meager volume" at that rate.

He believes that it will be economically possible for airlines to considerably lower tariff rates through the use of equipment designed especially for carrying freight, by efficient operations, and by developing a reasonable tonnage of payload on the backhaul. In his test flights, Mr. Myers picked up all kinds of cargoes, including jeeps and stoves, for the backhaul from east to west.

The establishment of rates for transporting airborne perishables on a zone basis similar to the group

commodity rate system for rail shipments is advocated by Mr. Myers. In this way, prices paid by ultimate consumers would be approximately the same in all markets of the same zone, regardless of the distance from the shipping point.

Basically the set-up would work, as follows: The country as a whole would be divided into several zones (the railroads use five), and airline freight would be the same to each city in the same zone.

For instance, if Chicago and New York were in the same zone, the shipping rate on two loads of strawberries from California would be the same. However, the zone rate to Dallas and St. Louis, assuming they would be in the same zone, would be lower than to Chicago and New York. At present each rate is figured on a per ton mile basis from originating to terminal point.

Although planning for such zones is still in the paper-and-pencil stage, it is believed the geographical zones roughly would correspond to the time zones into which the country is divided.

Airport improvement is another condition on which successful cargo flying will depend, it was learned.

Most of the landing fields, Mr. Myers found, were inadequate for handling heavy freight planes. Runways were too short for safety, and the surfaces weren't strong enough to stand heavy loads. Refueling facilities at many places proved insufficient for four-motored transports. Nearly everywhere airports were found to be too far from centers of cities, important where speed is necessary in getting perishables from plane to market.

Many cautions are imparted to shippers by Mr. Myers. He tells them not to underestimate the speed of air handling. He learned this lesson on his first test shipment of melons. They were packed too green and reached their destination no ripier than when they had left California. He discovered that cantaloupes for plane shipment to Philadelphia had to be picked ripier than those trucked to San Francisco.

Results of the experiment have been made available by Mr. Myers to the United Fresh Fruit & Vegetable Association, whose air transport committee appointed Mr. Myers to make the tests, and to the produce, aeronautical, and packaging industries as a whole.

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YOUR REFRIGERANT  
**IS DRY**  
use  
**JAY CEE**  
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Get that "last drop of water" out of your refrigerant. Use Jay Cee Refrigeration Grade Silica Gel in your dehydrating cartridges. By careful comparative tests Jay Cee Gel has been found to be a superior dehydrant. It instantly dries methyl chloride, sulphur dioxide, freon and other refrigerants. Prevents corrosion and ice formation. It is chemically inert . . . removes acids from the refrigerant . . . is not affected by oil . . . has high particle strength and does not break down in use. Because of great pore surface area (1 cu. in. = 50,000 sq. ft.) has highest moisture adsorption capacity. Developed especially for the refrigeration industry under strict laboratory control. Write for complete bulletin and prices.

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## A "NATURAL" FOR REFRIGERATORS - STAINLESS STEEL SHELVES



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PLYMOUTH, MICHIGAN

Makers of STAINLESS STEEL AND  
RETIRED REFRIGERATOR SHELVES AND WELDED WIRE PRODUCTS

## \$80,000 Appliance Store Will House G-E Dealer In Stockton, Calif.

STOCKTON, Calif. — An \$80,000 ultra-modern appliance store is being constructed here for Jack W. Simpson, who will own and operate the firm under the name of Simpson's General Electric, Inc.

Scheduled to be opened about May 1, the outlet will carry a complete line of G-E appliances, including refrigerators, ranges, water heaters, vacuum cleaners, and radios.

The two-story building boasts a 50-ft. frontage, now occupied by a laundry, a bar, and, until recently, by the Bright Spot Electric Co. A new addition of 25 ft. is being constructed in the rear, bringing the total depth of the structure to 125 ft. The upper story is occupied by a dance hall.

The store front will be offset on a bias, to provide space for "window shoppers," Mr. Simpson points out. The store facade is made up of glazed tile, and the sidewalk will be relaid in colored terrazzo to match. Indirect lighting will be one of the interior features, adds Mr. Simpson.

The property was recently purchased from West-Wilhoit Co. by Joseph H. Rossi, and was leased to Mr. Simpson on a long-term basis. Construction is being supervised by Grimes & Williams and Vincent Ramey, San Francisco architects.

Mr. Simpson said that he plans to continue operating a jewelry store here, in addition to his newly formed appliance business.

## Crosley Models New Line for Distributors



Equipped with new kitchen cabinets, the Crosley Shelvador refrigerator, and other Crosley appliances, this model kitchen was shown to the company's distributors at a recent conference in the Stevens hotel, Chicago. Here Mrs. Selma M. Andrews, director of home economics, and E. A. Bonneville, manager of the company's kitchen equipment section, check over details.

## Veterans Get 1st Choice At Ex-officers' Store

SALISBURY, N. C.—One major appliance store at which veterans are sure of getting first choice is Home Service & Supplies, Inc., new appliance outlet opened here in January.

Incorporators of the firm are two brothers, both combat veterans and both recently discharged Army officers. They are Maj. Joseph D. Sheneman and Capt. Edwin A. Sheneman, who will start off their complete-appliance inventory by earmarking it entirely for married ex-servicemen who must start house-keeping all over again.

"There are many thousands of young husbands who were married hastily before going away to war, and lack furniture, appliances, and often even a home," Maj. Sheneman explained. "We're going to do all we can to help these youngsters get started domestically in the right way, as well as supplying other veterans who have the homes to begin with."

The company ran a newspaper advertisement inviting ex-servicemen to call at the store for priority numbers.

## Rafferty Opens Outlet In Uniontown, Pa.

UNIONTOWN, Pa.—Radio & Appliance Co., a new store for the merchandising of radios and traffic appliances, was opened here recently by Hugh Rafferty, owner of the Rafferty Radio Hospital in this city. Wendell D. Coffin, new partner in the business, will be manager of the outlet.

Mr. Rafferty formerly specialized only in radio sales and service. However, he has now branched out to include all traffic appliances in his line of merchandise.

Mr. Coffin was recently discharged by the Army, where he served as instructor in radio at the Chief Signal Office, Fort Monmouth, N. J., and where he also had charge of crews, which installed radio equipment in tanks and combat vehicles. Prior to his Army service, Mr. Coffin was employed by Mr. Rafferty for 10 years.

## Davega Leases Another Store In Manhattan

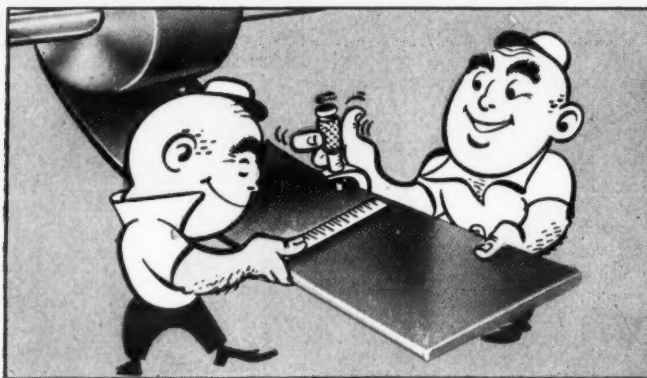
NEW YORK CITY—Leasing of a store occupying 10,000 sq. ft. of space at 200 Broadway here has been announced by Michael Cohen, vice president of Davega Stores Corp., who said that "the merchandise of the new Davega store will be a complete representation of our merchandise, including refrigerators, washing machines, electrical appliances, radios, and television equipment."

Upon completion of remodeling, this store will be Davega's largest downtown store, said Mr. Cohen, adding that plans have been made for complete air conditioning of the establishment. Opening date has been tentatively set at May 1.

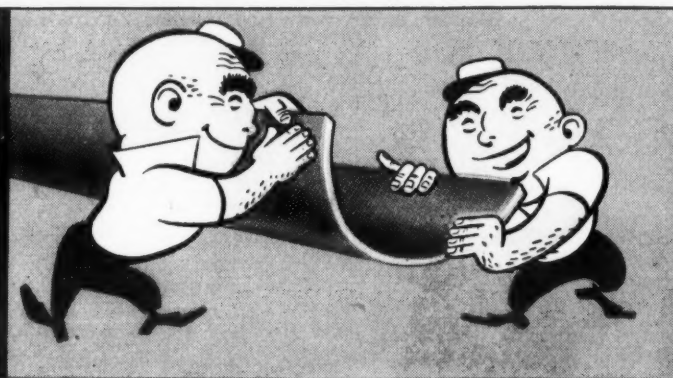
## Palmer Joins Firm Operated By C. J. and Len McCracken

CANTON, N. C.—W. R. Palmer, formerly with the North Carolina State Department of Revenue, has become a partner in business with C. J. McCracken and Len McCracken, exclusive Frigidaire dealers here.

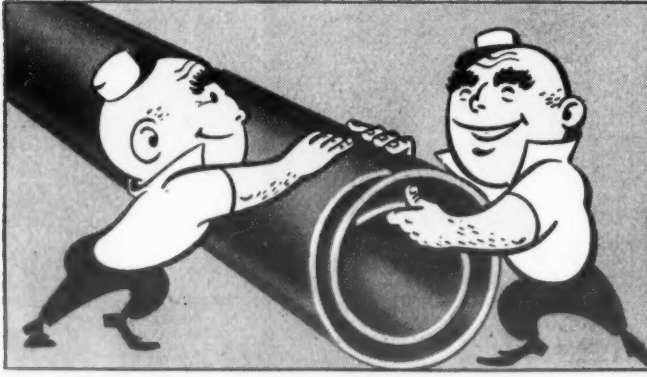
## INSIDE STORY OF BUNDYWELD



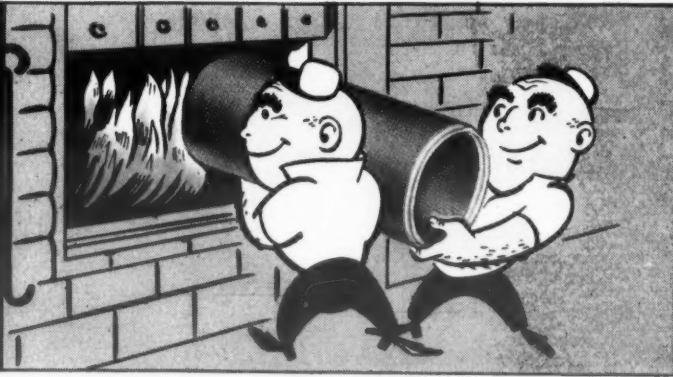
1 Bundyweld Steel Tubing is made by a process entirely different from that used in the making of any other tubing. A single strip ...



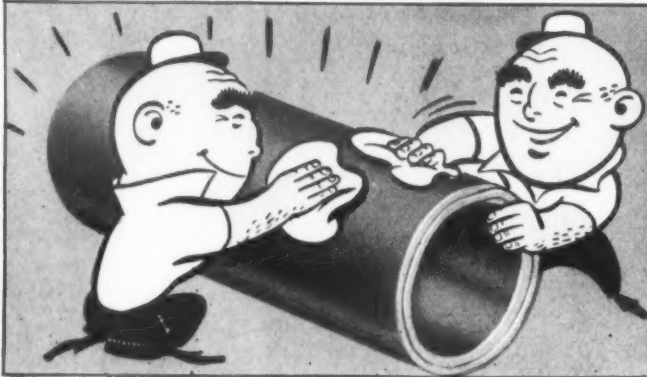
2 ... of copper-coated S.A.E. 1010 steel is continuously rolled twice around laterally into tubular form. Walls of uniform thickness and concentricity ...



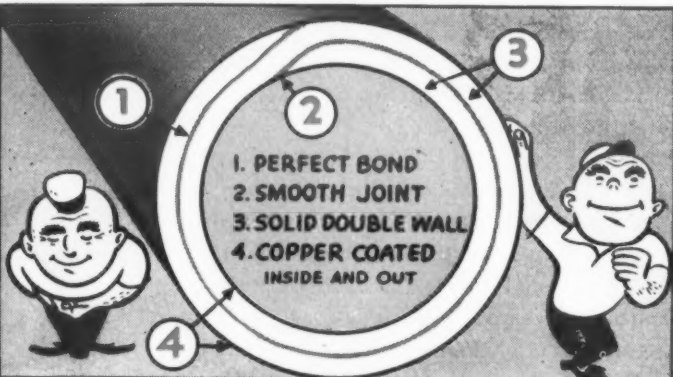
3 ... are assured by the use of close tolerance cold rolled strip. This double rolled strip in tubular form is next passed through ...



4 ... a brazing furnace, where the copper coating fuses and alloys with the double steel walls. After brazing and cooling, the tubing has become ...



5 ... A SOLID double wall steel tube completely copper brazed throughout 360° of wall contact, copper coated inside and out, free from scale and closely held to dimensions.



6 Bundyweld is furnished hard or annealed in a wide range of standard diameters and gauges up to 5/8" O.D. Special sizes, cold drawn as desired. Also furnished in Monel.

For further information write Bundy Tubing Co., Detroit 13, Mich.

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**MORE WEALTH . . .** Consider this \$4,496,-734,000 Chicago market located at the very heart of America, fortified by diversified income and billions in savings. Here in one strategic, compact area is more business than in 13 states combined . . . a huge, pent-up demand for radios, washing machines, automobiles, refrigerators and large-size units generally.

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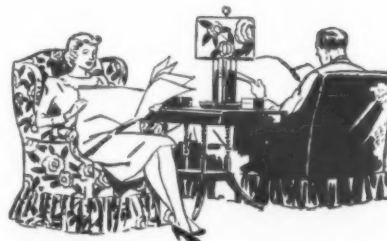
**MORE SALES . . .** Long famous for its big volume purchases, the Chicago market has repeatedly broken factory and branch sales records. Here you can get going fast with quick sales while at the same time get set solidly with dealers and consumers for the day when the first easy selling conditions pass and the competition becomes tough.

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**MORE COVERAGE . . .** You can get volume sales in this great market through a single powerful advertising medium—the Chicago Tribune. One out of every three families in 756 cities and towns of 1,000 or more population in this area reads the Tribune on weekdays. And on Sundays it is practically every other family.

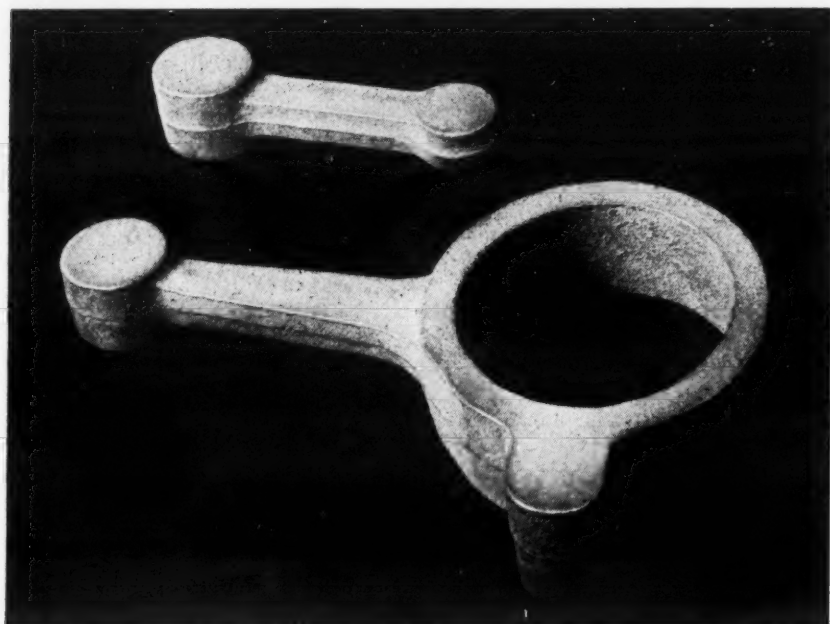
In this market only the Tribune gives you a choice of monoroto, coloroto, comicolor, newsprint color, or black and white printing—at one of the lowest milline rates in the country.

**CHICAGO TRIBUNE**  
THE WORLD'S GREATEST NEWSPAPER

Average net paid total circulation for the year 1945: Daily, over 1,000,000; Sunday, over 1,350,000. Rates per line per 100,000 circulation are among the lowest in America.

Now available for your study and use is a specific Tribune sales program based on the findings of an auto and household appliance investigation among dealers and consumers. To get these pertinent facts, address: C. S. Benham, Manager, National Advertising, Chicago Tribune, Tribune Tower, Chicago 11, Illinois.





### SABECO BRONZE CONNECTING RODS AND LINKS HELP BANISH REFRIGERATION MAINTENANCE PROBLEMS

When refrigerators begin to come off production lines once more, an increasing number of them will be equipped with connecting rods and links made of "SABECO" Bronze. The use of this unusual metal as seals, bearings, and other vitally important mechanical parts is rapidly spreading as more and more manufacturers learn by test that "SABECO" Bronze will not corrode, seize, burn, or pound out. Even when lubrication fails, "SABECO" Bronze parts continue to operate smoothly until corrective steps can be taken. Made from copper, tin, and lead only, with a maximum of 2/10 of 1% impurities, "SABECO" Bronze contains no hard spots to disintegrate into an abrasive, destructive compound. For complete particulars on how "SABECO" Bronze will eliminate or greatly reduce maintenance and replacement costs in your products or equipment, write to Saginaw Bearing Company, 861 S. Water St., Saginaw, Michigan. Cable **sabeco bronze** address, "SABECO".

## Mueller Brass Nets \$924,685 For Year

NEW YORK CITY—Mueller Brass Co. reports a net profit for the fiscal year ending Nov. 30, 1945, of \$924,685, which is equal to \$3.48 per common share. Net income for the 1944 fiscal year was \$1,025,394, or \$3.86 per share.

Net sales, minus a renegotiation provision of \$750,000, totaled \$30,389,274 in 1945, compared with \$33,149,145 in the year before.

No refund was required for 1944, under agreements concluded with the War Department Adjustment Board in renegotiation proceedings, F. L. Riggin, president, said in a letter to stockholders. The net refund required in 1943 was \$19,000, minus the amount previously provided by the company.

The provision for renegotiation in 1945, said Mr. Riggin, was based on the same general plan as the settlements for the two preceding years.

A total of \$463,168 was expended during the year for improvements, additions to the plant, and new equipment. The Federal Reserve "V" loan agreement entered into in March, 1943, was terminated in 1945.

### New Tampa, Fla. Firm

TAMPA, Fla.—Business Engineers, Inc., specializing in refrigeration and air conditioning for commercial and residential applications, has been opened for business in the Bus Terminal building here, announces Herbert Joyner, president.

## Commercial Refrigeration at the Marts



Commercial refrigeration equipment invaded the recent midwinter Chicago furniture marts. The display pictured above is the "Arid-Air" bottle coolers manufactured by American Refrigerator & Machine, Inc., of Minneapolis. June Hartman of Minneapolis and Hedy Koekpe of Chicago are shown with the coolers. Also displayed by American Refrigerator were home and farm freezers. There were a considerable number of displays of home freezers throughout the marts.

## Refrigeration Barges Made Available To Public as Surplus

WASHINGTON, D. C.—Steel refrigeration barges, declared surplus by the Army Transportation Corps, are now available to the public, it has been announced by the United States Maritime Commission. They will be sold at fixed prices in line with present market levels.

Built at a cost of \$146,500 apiece, the barges are standard type for harbor use. They are 112 ft. long, have a 29-ft. beam, 8-ft. depth, a 7-ft. draft at 587 long tons, and are non-propelled.

Of the 100 barges declared surplus, 60 are complete. These each have nine portable self-contained, walk-in type refrigerators, with a total capacity of 11,000 cu. ft. Having 6 in. of cork insulation, each walk-in cooler is 9 ft. high, 8 ft. wide, and 24 ft. long.

Manufactured by Chrysler Airtemp, the refrigeration equipment is completely automatic, with the exception of a manually controlled defrosting device.

This latter consists of a single electric driven, air-cooled, self-contained assembly having a plug-in type socket which is ready for immediate use.

A 220 volt, 60 cycle, 3 phase, a.c. 3-wire power, supplied by engine generators in the barge hold, operates the equipment. A spare refrigeration unit is contained in each of the 60 barges.

The 40 incomplete barges have no refrigeration equipment installed.

Crated, and ready for shipping, the barges may be purchased on an "as is, f.o.b. location" basis, at Yermo, Calif., where they are now located. For permission to inspect, or to get further information, inquiries may be addressed to the U. S. Maritime Commission, Materials Disposal Section, Washington 25, D. C.

## Orders Increase For Refrigerator Cars

WASHINGTON, D. C.—Of the 38,987 freight cars put into service during 1945 by Class 1 railroads, 1,860 were refrigerator cars, according to figures recently released by the Association of American Railroads.

The Association disclosed that 735 refrigerator cars were on order as of Jan. 1 of this year.

It was announced by Pacific Fruit Express that it planned to place an order for 2,000 new refrigerator cars to cost \$12,000,000.

## Mayson Co. Saluted On Sinclair Broadcast

DETROIT — Mayson Mfg. Co., manufacturer of refrigeration expansion valves, was honored on the Sinclair Refining Co. Quiz Club program over Station WJR here recently.

War work of Mayson was praised by Sinclair who "considered it a privilege to have contributed to their usefulness by supplying their lubricating and cutting oil requirements."

One of the Mayson employees participating in the quiz show answered several questions, among which was the \$65 question, and left the studio with \$90 in prize money.

## Bernard Heads Agency Sales For Davis Engineering

ELIZABETH, N. J.—C. Edward Bernard has been appointed manager of agency sales for Davis Engineering Corp., manufacturer of "Paracoil" feed water heaters and heat exchangers, it was announced.

Prior to his joining the Davis organization in September, 1945, Mr. Bernard was for over 22 years associated with the Worthington Pump & Machinery Corp., as sales engineer and feed water heater specialist.

# "Artic"-FOR REFRIGERATION

UNIFORM...

DRY...

99.5% PURE...

# DU PONT METHYL CHLORIDE

**HIGH-PURITY "Artic" Methyl Chloride** is designed to meet your every requirement.

**ORDER NOW**—but don't stock up!  
It's available as you need it.

**RETURN CYLINDERS PROMPTLY!**  
—Help assure yourself and others rapid deliveries! E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

### DU PONT METHYL CHLORIDE SPECIFICATIONS

Purity ..... 99.5% Methyl Chloride  
Moisture ..... 0.008% by wgt. max.  
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Color ..... water white, clear

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DESIGNERS AND BUILDERS OF PUMPS FOR SPECIAL NEEDS. Famous for soundly engineered reliability, Marine Products has set a record for world-wide service and low maintenance costs. Use M-P equipment in your field.

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**Crosley Engineer****O. E. NORBERG****Norberg Heads Crosley Appliance Engineering**

CINCINNATI—Promotion of O. E. Norberg to the position of manager of refrigeration and appliance engineering in the manufacturing division of The Crosley Corp., has just been announced by Lewis M. Clement, Crosley vice president in charge of research and engineering.

Mr. Norberg has been connected with Crosley for the past five years and, previous to his recent promotion, had been chief engineer of refrigeration.

He was connected with the Gibson Refrigeration Co. for two years and with the Norge Division of Borg-Warner Corp. for eight years before he joined the Crosley organization.

**R. T. Prescott Aids Diehl In Foundation's Work Of Refrigeration Research**

LOS ANGELES—R. T. Prescott, formerly technical editor for the Western Regional Research Laboratory of the U. S. Department of Agriculture, has been appointed assistant to H. C. Diehl, secretary and director of the Refrigeration Research Foundation, according to an announcement by President Roy M. Hagen.

Said Mr. Hagen, "The appointment of Mr. Prescott will help Mr. Diehl in carrying on the increasingly heavy duties of the director's office and will also promote the work of the foundation. Now completing its second year, the foundation has made excellent progress in line with its major purposes, which are to develop and support scientific study of refrigeration through fellowships in universities and other research agencies, and to develop the usefulness of technical refrigeration informa-

tion to the industry and the public." Previous experience of Mr. Prescott includes 17 years on the faculty of the University of Nebraska during which he edited agricultural college and experiment station publications in addition to teaching journalism. As a sideline he was assistant editor of *Cereal Chemistry*.

**'No Change In Policies' Says War Assets Corp.**

WASHINGTON, D. C.—There has been no change in the policies, procedures, sales offices, or personnel employed in disposing of surplus consumer goods and capital and producer goods, although the War Assets Corp. has been placed in charge, according to Lt. Gen. Edmund B. Gregory, chairman of the new corporation, a subsidiary of the Reconstruction Finance Corp.

Established offices for government-owned surplus property will continue to be used, said Gen. Gregory, who asked that purchasers continue to do business with the same people and at the same addresses as heretofore.

**160 Exhibits Ready For National Housing Show Feb. 25-28**

CHICAGO—More than 160 exhibitors will be host to an estimated 5,000 architects, builders, mortgage bankers, and realty dealers Feb. 25-28 when the National Association of Home Builders holds its exposition at Chicago's Stevens hotel.

Home appliances in new architectural settings will be shown by such companies as Bryant Heater, Chrysler Airtemp, Commonwealth Edison, Crosley, Delco Appliance, Edison Appliance, Fairbanks Morse, Frigidaire, General Electric, Modern Maid, Nash-Kelvinator, National Adequate Wiring Bureau, Norge, Servel, Sloan Valve, Stokol Stoker, Westinghouse, and White-Rodgers, all of whom have reserved space at the exhibit.

Convention sessions will feature such industry problems as job opportunities for returning veterans, building financing, and housing prospects for 1946.

**Bendix Plans Awards For 3,600 Trainees In Servicing**

SOUTH BEND, Ind.—Bendix Home Appliances, Inc., will present certificates to the 3,600 servicemen who have successfully completed training courses for installing and servicing Bendix automatic washing machines, reports A. P. Smith, service manager.

Certificates also will go to an additional number whose training will be completed by July 1.

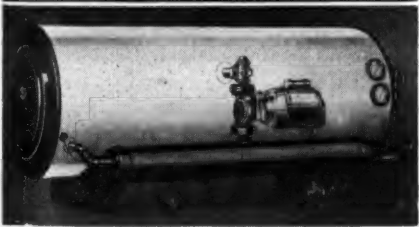
As a supplement to the certificates, the service men next summer will receive lapel pins designed by Mel Boldt, designer for Bendix Home Appliances.

**Detrola Regular Dividend**

DETROIT—Directors of International Detrola Corp. voted to pay on Feb. 1 the corporation's fifteenth consecutive quarterly dividend of 25 cents per share to stockholders of record at the close of business Jan. 17.

*Build Quality into those  
Brilliant new Designs with*

**EATON PERMANENT MOLD  
GRAY IRON CASTINGS**

**HIGH SUCTION  
PROCESS  
WATER COOLERS**

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135 to 1000 G. P. H. recovery capacities.

Suitable for bakery ingredient, jacket cooling, film processing air conditioning or other commercial cooling.

Available with or without agitator pumps.

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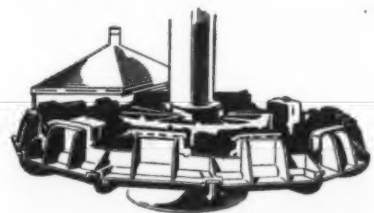
**T**HE use of Eaton Permanent Mold Gray Iron Castings can give your products outstanding quality. In many cases Permanent Mold Gray Iron Castings provide for worthwhile production economies.

The patented Eaton process produces Permanent Mold Gray Iron Castings with a fine-grained homogeneous structure, providing absolute freedom from porosity, and insuring free machinability. This process easily handles complex cored designs, as well as simple shapes, providing an accuracy and uniformity

which hold machining costs to a minimum. Perhaps the best recommendation for Eaton Permanent Mold Gray Iron Castings is the fact that millions have been used by the automotive, refrigeration, and home appliance industries in the production of critical parts.

There is undoubtedly a part in your product which could be made better, and perhaps at lower cost, from Permanent Mold Gray Iron.

A copy of the illustrated booklet "The Eaton Permanent Mold Process" will be gladly mailed upon request.



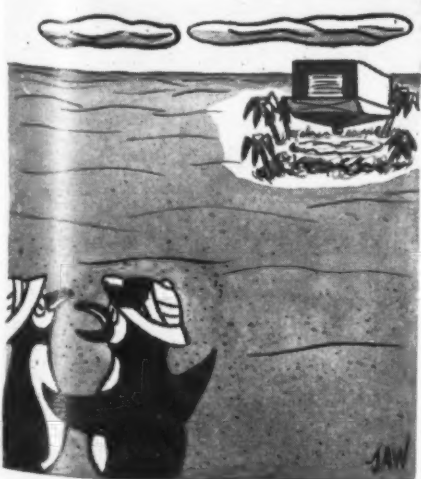
THE EATON PERMANENT MOLD MACHINE IS A SYMBOL OF THE QUALITY OF GRAY IRON CASTINGS PRODUCED BY THE PERMANENT MOLD PROCESS.

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**EATON**

MANUFACTURING COMPANY  
FOUNDRY DIVISION

9771 French Road • Detroit 13, Michigan



"That's no mirage—BUSH COOLERS are found everywhere!"



## Refrigeration May Permit Restoration of Severed Limbs, Doctor Tells A.S.H.V.E.

(Continued from Page 1)  
might have been carried to this planet from outer space through eons of time at the lowest limits of cold.

"The effects of low temperature upon the highest species, including man, must be studied according to a threefold classification, namely, the effects upon the whole organism, upon local parts, and upon isolated parts," declared Dr. Allen.

"For all homoiotherms or warm-blooded animals, there is an absolute low limit of temperature compatible with life. This ranges from about 13° C. (55.4° F.) in the rat to 22° C. (71.6° F.) in the dog. When

the lethal temperature is reached even momentarily, there is a sudden stoppage of respiration, then of the heart, and there is no recovery upon warming.

"Hibernators retain the exceptional power of reverting practically to a cold-blooded behavior, with the characteristic torpidity on cooling, and some of them can withstand temperatures slightly below zero Centigrade, but freezing of vital organs is fatal.

"In all species the time factor is very important, all temperatures above the lethal point being tolerated for various times. There is roughly an inverse relation between time and

temperature; the lower the temperature the more quickly it is fatal," he explained.

"Any marked reduction of the body temperature of a warm-blooded animal is injurious and ultimately fatal. Therefore, defensive reflex mechanisms are active in combating any reduction. These include especially diminution of heat loss by constriction of superficial blood vessels and increase of heat production by the involuntary muscular activity of shivering.

### ARTIFICIAL HIBERNATION

"Dr. Temple Fay has reduced the human temperature to the lowest known limits, namely, to 24° C. (75.2° F.) which must be close to the lethal point. He was the bold pioneer discoverer of the torpid, almost unconscious state of artificial

hibernation, which differs in important respects from true hibernation, and he can tell more about bodily hypothermia than anybody else.

"Only one central fact need be considered here. The utmost voluntary and involuntary efforts are justified to preserve body temperature, because of the ultimate fatal effect of reduction, but paradoxically these efforts may in themselves be fatal. Particularly by using sedatives to dull the reflexes and allow the body temperature to fall with a minimum of defensive reactions, Dr. Fay has been able safely to maintain rectal temperatures of 85° F. or even lower for several days or a week, whereas a person exposed under ordinary conditions would die within a shorter time from exhaustion due to voluntary and involuntary efforts to prevent such a fall of temperature," said Dr. Allen.

"Cold applied to a local area causes first a pallor due to vasoconstriction, with a tendency to reflex contraction of superficial vessels throughout the body. Later the local capillaries dilate, causing redness, though the larger vessels remain contracted. Sufficient intensity or duration of cold causes local enema, or wheal, and the flare described by Lewis is a surrounding redness due to capillaries, dilated by formation of histamine-like substances in the tissues.

"Results are determined by the usual three factors of temperature, time, and complications. Freezing with its crystal formation is particularly serious but by no means necessarily fatal, since a cat's leg has been experimentally frozen so hard that it would ring when struck and yet could recover with only brief inflammation and no permanent damage; and the similar survival of human fingers and ears after brief freezing is well known.

### SURVIVAL OF TISSUES

"The lowest temperatures kill tissues in the shortest time, but many persons will be surprised that such sensitive structures as liver and brain tissues and major blood vessels have been frozen for one minute with solid carbon dioxide without permanent damage," Dr. Allen declared.

"Important complicating factors are wetness, which when long continued can cause tissue changes even without severe temperature; also dependent position, obstructed circulation and nutritive deficiencies. Thus immersion foot occurs particularly in soldiers or sailors whose feet have been wet, cold, and in a cramped dependent position for several days.

"After all these forms of injury, the first result of warming is a rush of blood. Then, in the severest cases, the arteries clot shut and necrosis of tissues from lack of blood is seen in the form of ulcers or

gangrene. In less severe cases chronic nervous and circulatory disturbances persist for months, manifested by anesthesia, hyperesthesia, red, white, or bluish mottled colors, and sometimes pain to a degree requiring amputation. Minor persistent lesions are familiar in the form of chilblains. After the mildest injuries, complete healing occurs more or less rapidly.

"No formal distinction of this kind has heretofore been made in the literature, but there is a very sharp difference in behavior of tissues when they are removed from the nervous and circulatory control of the body. Evidently much of the local injury from cold represents a breakdown of defensive reactions.

### CONSIDERABLE RESISTANCE

"Also the tolerance of severe and prolonged freezing, such as would be unthinkable for any part connected with the body, proves that mammalian cells have by no means lost the resisting power inherited from primitive organisms. Thus cancer cells have survived freezing for two years. Human spermatozoa have regained activity after freezing at the nearest possible approach to absolute zero. More complex structures also reproduce the primitive behavior.

"Much work will be required to determine what structures can be preserved, at what temperatures and for how long. In some instances, as mentioned, there is the paradox that temperatures near freezing may be more injurious than those far below freezing, perhaps because of irregular disturbances of cell enzymes," said Dr. Allen.

"Limbs can be separated from their nervous and circulatory connections by a tight tourniquet, without amputation. Thus they will not display the defensive reactions of limbs which retain connections. Severe arteriosclerosis or wounds appear to make a partial change of this kind.

### LENGTH OF PRESERVATION

"It is not feasible to freeze or desiccate such limbs, but at least within a range from about 5° C. (41° F.) upward there is a reversal of the usual law. That is, tissues connected with the body are killed by the lowest temperature in the shortest time, but isolated tissues or limbs within the range mentioned survive longer in proportion as the temperature is lower.

"This survival can be very considerable, as I was able to preserve ligated animals' legs in ice water for 54 hours, and Brooks and Duncan kept rats' tails for 96 hours. It is uncertain how much longer the survival might be possible if technical difficulties could be overcome.

"Refrigeration, halting all metabolism, places the tissues in a state of

(Concluded on next page)

## Are You Getting Your Share of the Milk-Cooling Business?

# WILSON

## SYSTEMS OF MILK COOLING

### A TYPE FOR EVERY REQUIREMENT

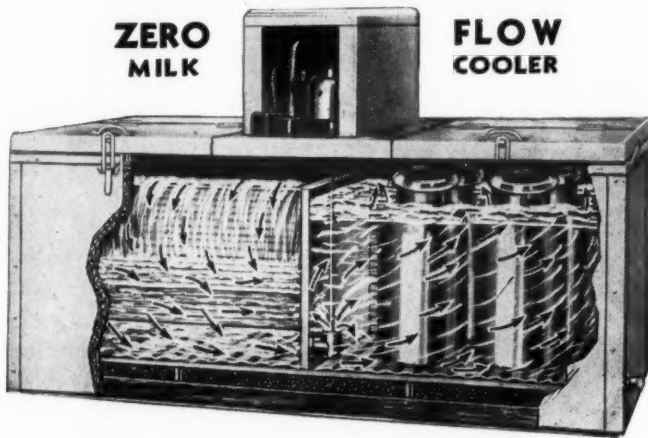
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The Wilson ZERO-FLOW Milk Cooler, in sizes to cool from 4 cans to 20 cans of milk daily, has set a high standard of milk-cooling speed, with economy and dependability throughout a long life. The 1946 ZERO-FLOW, engineered particularly for the use of refrigerating plates, continues the Wilson tradition of high performance in:

- RAPID AND UNIFORM COOLING
- MAXIMUM COOLING EFFICIENCY
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- LIFE-TESTED CONSTRUCTION

If there is no Wilson Dealer near you . . . if you have an adequate sales-and-service organization . . . you can get your share of this tremendous business. Write NOW.

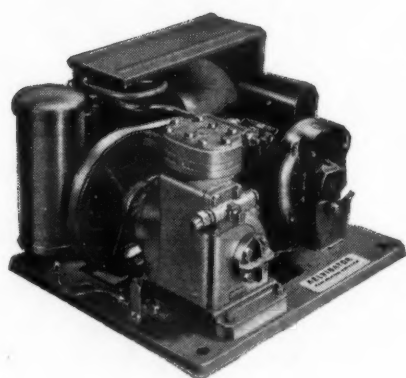
**WILSON REFRIGERATION, INC.**  
DIVISION WILSON CABINET CO.,  
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Model ZF8-HX50 Packaged-Unit

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*Competitively Priced*



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A completely new sales-minded policy governs the merchandising of Kelvinator Condensing Units. Greatly increased facilities . . . new production methods developed for victory . . . concentration of production on a compact line to meet the requirements of the majority of commercial condensing unit buyers . . . are the factors which make this possible—and which make it possible to say that Kelvinator's trouble-free performance is now available at competitive prices.

NASH-KELVINATOR CORPORATION, Detroit

BUY KELVINATOR FOR YOUR COMMERCIAL REFRIGERATION REQUIREMENTS

**Kelvinator**



CONDENSING UNITS OPEN AND SEALED

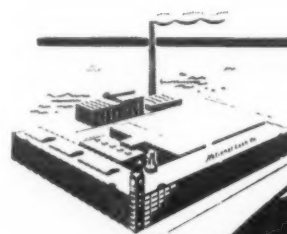


COMPLETE PARTS STOCKS  
AT 50 STRATEGIC POINTS!

Kelvinator's warehousing system is convenient to all! And these 50 strategic distributor and branch points stock a complete line of Kelvinator parts and Condensing Units, as well as a general line of refrigeration supplies.

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**REFRIGERATOR HARDWARE**  
for domestic, commercial and low temperature cabinets



**SURFACE TYPE HARDWARE**

**"THRU THE DOOR" HARDWARE**

**EDGE MOUNTED HARDWARE**

**PLASTICS**

**DIE CASTING**

**NATIONAL LOCK COMPANY**  
Refrigerator Hardware Division  
ROCKFORD, ILLINOIS



## Medical Uses --

(Concluded from preceding page)

suspended animation, temporarily as reactionless as if they were dead. Thus it has the unique property of simultaneously inhibiting pain, shock, exudation, infection, necrosis, and formation and absorption of toxins. Hence it is used in a growing list of conditions which need one or all of these effects, as follows:

### SURGICAL ANESTHESIA

**"Surgical anesthesia:** Cold is the only known anesthetic which anesthetizes not only nerves but also the entire protoplasm, and it thus provides the only shockless surgery. It was first used for this purpose, which was the origin of the research, namely amputation in dangerous gangrene cases, particularly those which were formerly given up as inoperable because of weakness and shock.

"The method consists essentially in applying a tight tourniquet of narrow rubber tubing well above the proposed level of amputation, the skin having been previously chilled to prevent pain from the compression. As soon as the tourniquet has been fastened, the entire limb is buried in ice to a couple of inches above the tourniquet.

"Any preexisting pain, even the most excruciating, ceases, and the patient is comfortable during the refrigeration period, which is the time required for cold to penetrate and deaden the deepest nerves. This time may range from one hour for an ankle to three hours for the thickest thigh. The ice is removed in the operating room and the amputation performed without pain or shock, the tourniquet being released just before final closure of the wound.

"Moderate cooling of the stump to a skin temperature of about 15° C. or 59° F. is continued for a day or two, to control pain, inflammation, and possible infection or necrosis. Many surgeons have agreed that the mortality in poor-risk amputation cases has been greatly reduced by this method (in the City Hospital, N. Y., a change from about 80% deaths to about 80% recoveries).

### HALTS INFECTION

**"Infection and intoxication:** As an example a patient may enter the hospital nearly dead with infected gangrene. The leg is packed in ice. The intoxication is halted so that within 24 or 48 hours fever, delirium, or unconsciousness are cleared up and the patient is eating. A tourniquet can be applied for still more absolute blocking of toxic absorption, and the amputation may be deferred for days or even weeks if necessary. Recently this method has been tried for other dangerous infections, especially gas gangrene, with encouraging results.

**"Brief preservation after wounds:** As an example, a man may arrive in the hospital in a dying state after amputation of both legs by a railway train. He revives under transfusions and other treatments, and pain is relieved by packing the stumps in ice. He is in condition for successful surgery 58 hours later, the wounds being fresh and free from odor. (Case of Dr. R. T. McElvenny).

### PREPARING FOR OPERATIONS

**"Prolonged preservation after wounds:** For example, if men sustain fractures of the pelvis by being crushed by trucks or falling from heights. In each instance the main artery of one leg is damaged and clotted shut. Amputation would be fatal in the presence of other severe injuries and shock. In cases reported packing in ice prevented gangrene of the leg for two or two and one-half weeks while other injuries were being treated and strength built up; then amputation was followed by recovery. (Cases of Dr. H. E. Mock.)

**"Saving of limb:** A blast accident tore off one of a soldier's hands, mangled the other, and inflicted body injuries. A quick wrist amputation might not have been fatal, but both forearms were packed in ice. After two and one-half weeks there was sufficient recovery of strength for reconstructive surgery. The lacerated tissues were as fresh as at the time of the wound. One clean amputation was completed and the other hand was elaborately repaired so as to restore nearly normal function, thus avoiding the horror of no prehensile limb. (Case of Dr. I. M. Nachlas.)

**"Embolism:** Embolism in a limb means that an artery is stopped by a

clot or other solid object carried to it from elsewhere. Thus it occurs in heart disease and other conditions where the patient may be unfit for immediate operation. Refrigeration has preserved such limbs from gangrene for two to six weeks, until conditions for amputation were more favorable. (Cases of Dr. L. W. Crossman.)

### SHOCK TREATMENT

**"Shock:** In shock arising from crushing or other severe injuries of limbs, life may be saved by refrigeration, as proved definitely by animal experiments. This is part of the routine treatment of the *crush injury* which became familiar during bombing raids in England. Pressure by means of casts or tight bandages is commonly used for this same purpose, but though it is helpful for shock it does not control pain and may tend to increase tissue necrosis and infection. Cold can be used either alone or with pressure to obtain the combined effects.

**"Injuries due to cold:** Frozen areas or 'immersion foot' should not be warmed too fast or too far. Increase of pain, swelling, thrombosis, and necrosis is the result. In the present war, Webster and other Canadian and English investigators learned that by keeping the affected parts moderately cool, with skin temperatures around 60° to 70° F., sometimes for several weeks, the neurovascular symptoms are greatly relieved and many amputations prevented. In the severest cases, a recent therapeutic advance is based on the previously mentioned fact that tissues are not directly killed by cold but die as a secondary result of thrombosis of vessels.

"The new treatment (Lange, Loewe, and others) consists in preventing blood clotting by administering heparin for several days. The result is complete healing of frozen parts such as heretofore have become hopelessly gangrenous. But often it will be necessary to thaw the frozen parts at only a few degrees above freezing in order to prevent both thrombosis and necrosis in the interval before heparin can be obtained. Also the above-described need for cooling in the later stages is not altered.

### BEST FOR BURNS

**"Burns:** Burns preeminently create a need for the unique potency of cold for controlling pain, shock, infection, necrosis, and intoxication. Anybody can readily convince himself that the best emergency treatment is to plunge a burned part into the coldest obtainable water or apply ice. There is not only the best immediate relief of pain and inflammation but also the best influence on the subsequent course. While any other desired treatments may be combined with this, the later management includes moderate cooling for a number of days or weeks, somewhat as in frostbite cases. A recent case report by Dr. I. Kross is part of the basis of hope that this method will revolutionize treatment and results in severe burns.

**"Military surgery:** Obviously these enumerated types of injuries occur in war to the extent of thousands of cases. The weapons now in use have made limb wounds and burns particularly numerous. The examples from civilian surgery illustrate the value of refrigeration for painless and shockless transportation of wounded and for a wide variety of operations and treatments. Beyond question many lives and limbs have been lost as a result of the failure of the official scientific advisory committees to recommend methods and apparatus for this purpose.

### OBJECTION ANSWERED

"The arbitrary objection that refrigeration is not feasible near the fighting fronts has been answered by the refrigeration of food and drinks in advanced areas, the rapid transportation of wounded to equipped hospitals, and the actual use of the method on the initiative of medical officers with improvised apparatus. Tropical climate accentuates the need. Forthcoming reports will show the benefits thus derived from surgical refrigeration during the recent Pacific campaigns.

"The preceding descriptions have been based mostly on the use of ice, which is the most primitive and still the most common method. Special apparatus is a convenience and in some respects almost a necessity for both civil and military treatments.

"Doubtless in this field there is more scientific interest than financial gain, and the machines of a manufacturer in Buffalo, N. Y., are the only ones now available. They circulate an alcohol-water mixture at selected temperatures through blankets, metal applicators, or air chambers. Any such apparatus must be thoroughly constant and dependable in tempera-

ture, the automatic reliability being not only a therapeutic necessity but also an important saver of nursing work.

"Other desirable features are light weight, noiselessness, adaptability, and minimum interference with a patient's comfort and movements. All these qualities are put to test in treatments requiring weeks or months

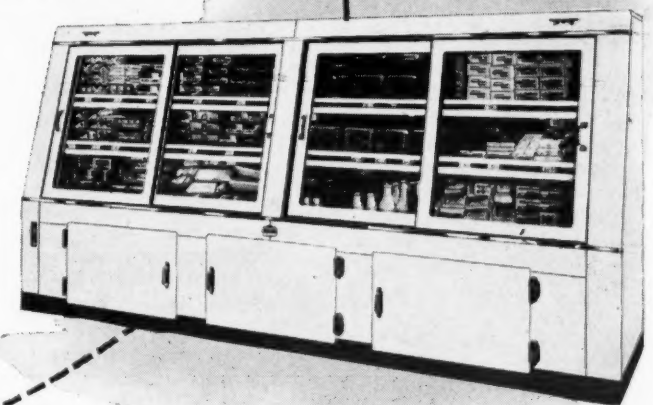
of regulated temperature, for which ice bags are extremely inefficient and laborious.

The existing apparatus has made possible the results obtained in the City Hospital (New York), and apparently no more than minor improvements will be needed unless some radically new engineering principle comes into view."

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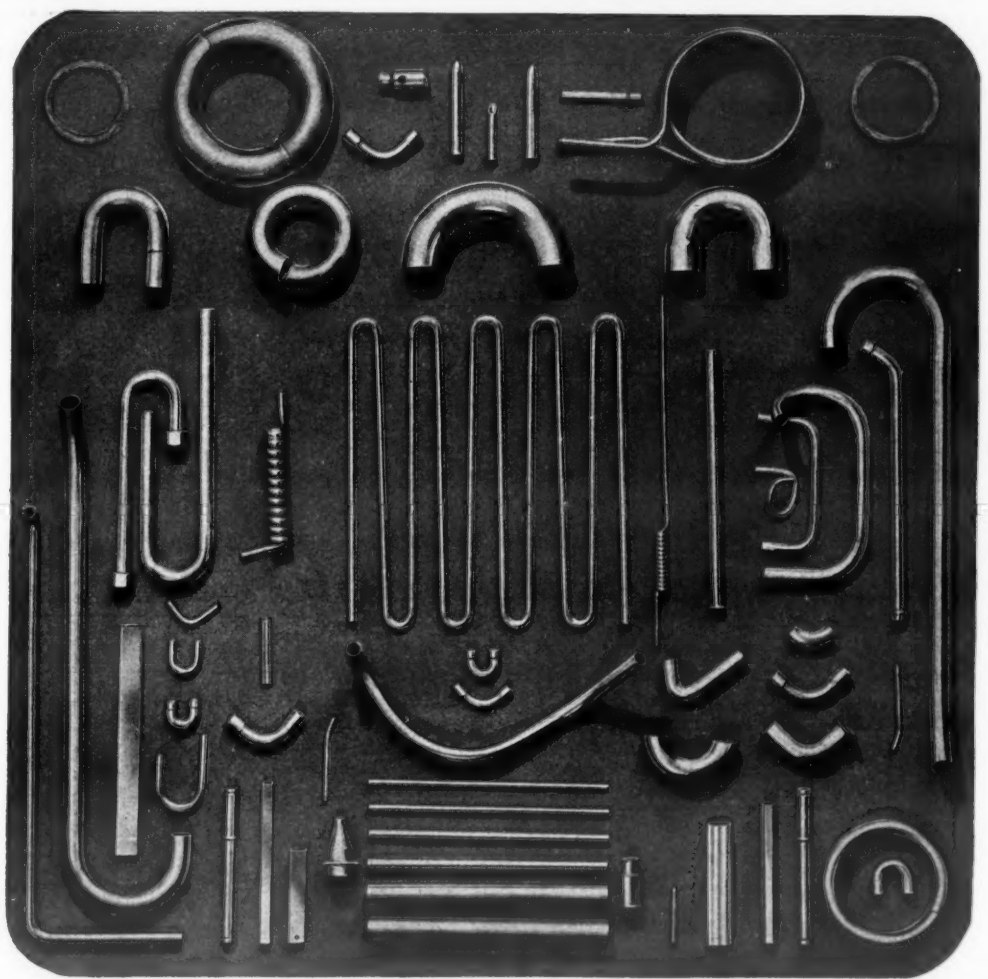
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## Anaconda Refrigeration Tubes



# Westinghouse Announces Details of Products And Production Expectations for 1946

MANSFIELD, Ohio — Although present plans call for the completion of the \$11,500,000 expansion program at the Westinghouse electric appliance division plant in Mansfield, Ohio, and in Springfield, Mass., by mid-summer, J. H. Ashbaugh, vice president in charge of the division, reported that indications point toward a lower than expected production rate in home appliances for 1946.

While the company has placed products into production ahead of schedule, Mr. Ashbaugh said that the rate of production is "very disappointing." He added:

"Reconversion of our facilities is practically completed, and although all products have not as yet started in production, we do have an employment and payroll within 20% of our wartime average. The payroll averages more than a million dollars a month.

"The rate of production is well below what it should be for the size of the employment figure. The cause is partly lack of parts, training, effort, and the general reconversion problem. Excluding the cost of reconversion, the plant has been operating at a substantial loss since August and we see no prospects of overcoming this with the present production costs and ceiling prices."

## TO COMPLETE EXPANSION BEFORE MIDSUMMER

Pointing out that the present and the immediate future have their problems, Mr. Ashbaugh stated that the company has faith in the long range plan it has adopted and that present schedules call for completion of the Appliance Division expansion program before midsummer. This program includes the addition of two new buildings now under construction and changes within the present plant structures.

"When this work is completed," Mr. Ashbaugh said, "it should give a steady increase in employment and payrolls, provided corrections can be made to permit increased volume.

"Competition will soon be a deciding factor in the amount of goods we produce, and before the year 1946 comes to a close, it may easily have considerable bearing on our employment."

The new buildings that are under construction at the Mansfield plant are part of an \$11,500,000 expansion program for the appliance division which includes expenditure of \$5,000,000 at the Springfield, Mass., plant of the Westinghouse division. The largest expenditure in each plant will be for machine tools and capital equipment, estimated at \$3,100,000

for the Mansfield expansion plan and \$2,750,000 for Springfield.

New buildings and additions to existing structures will cost about \$2,153,000 at Mansfield and will provide an additional 400,000 sq. ft. of floor space. The Springfield costs will be about \$1,250,000 and will add 270,000 sq. ft. of floor space. Plant re-arrangements—including cost of machine tools, conveyors, test stands, jigs, and fixtures, will be \$1,300,000 at Mansfield and \$1,000,000 at Springfield.

The following is a report on Westinghouse appliance products:

## CLOTHES DRYER

The new Westinghouse automatic clothes dryer that through a tumbling or "fluffing" process is said to bring the "warmth of the sun and the gentle action of breezes indoors" is now being produced and will be available to consumers this year.

The automatic dryer is identical in shape and size to the Laundromat automatic washer. The dryer contains a large perforated metal basket in which damp clothes are placed. The basket is rotated at a slow speed while a fan circulates heated air that carries away the moisture.

"The new dryer makes it unnecessary to iron some pieces," I. Frank Brownson, manager of the laundry equipment section, said. "It assures the housewife of drying 'weather' for her washed clothes that is always perfect."

Mr. Brownson explained that the operation is completely automatic in the Westinghouse dryer and that thermostat control, sensitive to the increased heat when the clothes are dried, automatically shuts off the dryer.

## LAUNDROMAT

The 1946 Laundromat automatic washer, a machine that washes, rinses, and damp dries the clothes in half an hour, has been improved over the prewar model on the basis of engineering studies and actual use in 25,000 homes during the war years. The new improvements added to the Laundromat have undergone tests in the engineering laboratories at the Mansfield, Ohio, plant.

Two important new features on the Laundromat are: (1) the speed change unit, or automatic transmission, that boosts the laundry tub from 47 revolutions per minute for the washing operation to 500 rounds per minute for the spin-dry phase will be completely sealed-in-steel and contain a lifetime supply of oil; (2) a non-clogging drain pump that

eliminates the necessity for a lint strainer from which the lint was manually removed.

The Laundromat is equipped with two controls, one that regulates water temperature for various types of clothes, and the other for operating the machine. The operating dial, once turned on, controls the filling of the Laundromat with water, the wash, rinse, and damp dry operations and at the end of the operation controls the cleaning of the machine, the pumping out of the water and turning off. The user has only to place the clothes in the machine, add soap and, if necessary, water softener.

The Westinghouse automatic washer weighs less than 300 pounds, is compact and portable and can be installed anywhere without anchoring to the floor.

## HOME FREEZERS

Upright home freezers for city and farm use with front-opening doors and sectional inner doors for easy food storage and removal are now being produced.

The Westinghouse home freezer is being made in three models, starting with a 6-cu. ft. size, to meet both urban and farm requirements. The two functions of freezing and storing foods will be done separately in all models.

"This upright design will make the Westinghouse home freezer the com-

panion piece to the household electric refrigerator in size and finish and will provide the same reach-in convenience of the refrigerator," said G. H. Meilinger, manager of household refrigeration at Westinghouse.

"Sectional inner doors and shelves," Mr. Meilinger continued, "make it possible to select specific foods from an individual section of the cabinet without disturbing food arrangements or temperatures in other sections. Zero temperature is maintained in storage compartments. On the freezing surfaces, temperatures range from 10° below zero to 20° below zero."

The upright home freezer will, like the domestic electric refrigerator, have a hermetically sealed system.

Besides the 6-cu. ft. model, the other home freezer capacities will be 16 and 25 cu. ft.

## AUTOMATIC DISHWASHER

An entirely new designed fully automatic dishwasher that "takes this kitchen appliance out of the luxury class" will be produced this year by Westinghouse.

"To operate the new automatic dishwasher," explained M. M. Feaman, manager of the dishwasher and water heater department, "the housewife simply places her dishes, glassware, and silver in the square, top-opening unit, and presses a button. The machine then sprays the dishes, washes them, rinses them twice, cleans and drains itself automatically and then shuts off. The complete cycle requires about 12 minutes and because the water is 150° F.—about 30° hotter than human hands ordinarily can stand—dishes are far cleaner than when washed by hand," Mr. Feaman said.

"The new dishwasher," he continued, "in addition to being fully automatic, has a capacity one third greater than our prewar models. On the basis of being used three times a day, it will consume only 16 cents worth of electricity a month."

The new dishwasher will come in a basic unit, the dishwasher without a cabinet, in a cabinet model, and in a cabinet-sink combination.

## ELECTRIC RANGES

The 1946 line of Westinghouse electric ranges is styled with chromium trim and embody new engineering developments in the construction of surface heating units, according to R. M. Beatty, manager of the range department.


"The new fast heating Corox surface units for the 1946 electric ranges are designed for greater efficiency, longer life, and maximum economy," Mr. Beatty said. "These surface units will have five heat positions to insure the right heat for each type of cooking."

## ELECTRIC REFRIGERATORS

A completely redesigned and re-engineered electric refrigerator for 1946 is being made by Westinghouse. The B-7 model was the first introduced in this line.

"The restyled refrigerator brings new conveniences to the consumer such as improved shelf arrangements, increased milk and beverage storage and additional space for frozen foods," said G. H. Meilinger, manager of the household refrigeration department.

The frozen food compartment in the freezer or evaporator of the new (Concluded on next page)

-  **FIRST SUCCESSFUL SPEED-BAKE FINISH.**
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For further information on these and other Interchemical Finishes send for folder "Finishes For Postwar Products." Or, see listings under Ault & Wiborg and Murphy Finishes, Sweet's File for Product Designers, 1945.



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## Westinghouse Tells 1946 Product Line-up

(Concluded from preceding page)  
refrigerator is one third larger than in the last prewar model and will hold 10 pounds of frozen food. The B-7 model has an anodized aluminum crisper pan for the storage of vegetables and this light, easy to clean metal also is used on the door of the freezer and for ice cube and dessert trays.

The crisper tray fits snugly against the top glass cover and is mounted on rollers to facilitate gliding in and out.

To maintain safe refrigerating conditions, the temperature control is located at the base of the refrigerator door within easy reach and is marked off in degrees of temperature, enabling the housewife to select safe temperatures for all types of food.

The aluminum ice cube and dessert trays—they make 84 ice cubes at a time—come equipped with selecto-cube ice forming grids from which one cube at a time can be taken.

Up to 15 pounds of meat can be stored in the smartly styled glass meat keeper in the new refrigerator. This pan slides under the freezer and is easy to move when packed with meat.

Changes in the interior arrangement of the shelving—by moving the freezer off-center—have been designed to increase the storage utility of milk bottles, mason jars, and tall bottles. Eight square quart size milk bottles, for example, can be stored on one side.

An all steel cabinet is used and the inner door panel is made of a white finished laminated plastic,

Micarta, developed in the Westinghouse Research Laboratories. The new panel is curve shaped, increasing the inside cabinet size. A Westinghouse hermetically sealed compressor unit with a lifetime oil supply is used in the refrigerator.

### VACUUM CLEANERS

The Westinghouse Electric Appliance Division's East Springfield plant resumed civilian production of two vacuum cleaner models, a floor type and a hand vacuum cleaner, in September, 1945.

"Two new features have been added to the prewar floor cleaner," W. E. Slabaugh, sales manager of the department, said, adding:

"Westinghouse engineers have developed 'stepped wheels' which automatically adjust the distance from the rug nap to cleaner nozzle at the most efficient setting. This action also adjusts the 'penetrator' brush to the correct position. The 'penetrator' brush digs deeply into thick nap, relaying embedded dirt to the nozzle.

"The new models incorporate a 'bifurcated' handle—two metal tubes attached to the cleaner's sides and joined near the top to form the grip—for greater mobility and balance. A plastic motor housing is also used to gain lighter weight for the vacuum cleaner."

### TABLE APPLIANCES

(Toasters, coffee makers, waffle bakers, hot plates, sandwich grills, cozy-glow heaters, electric blankets.)

Restyling of these appliances by Lurelle Guild, Westinghouse design consultant, will make this group of table appliances the most distinctive line of electrical home making aids to be offered by the industry, R. Z. Sorenson, manager of the table appliance department for the Westinghouse Electric Appliance Division, reported.

The various table appliances will also be re-engineered in the view of consumer testing and advances in engineering made since they last appeared on the market.

### ELECTRIC FANS

Westinghouse will produce 25 models of electric fans in 1946, its full line, reported W. B. Massenburg, fan department manager at the Westinghouse Electric Appliance Division's East Springfield, Mass., plant. Unrestricted civilian production in 1945 was limited to six oscillating fan models, four desk, and two pedestal types. During the war period nearly half a million fans were made for government use, a majority of them for naval and merchant marine vessels.

### ELECTRIC ROASTERS

An 18-quart capacity electric roaster decorated in blue trim and with polished aluminum top covers with a "look-in" glass panel was one of the first products of the Westinghouse Electric Appliance Division to be placed into production in 1945. The electric roaster comes equipped with oven dishes, one for meat and two for vegetables.

The look-in glass panel enables the user to see the food cook without lifting the lid, and the Time-Temp

shelf, which slides from the base of the roaster, lists all essential cooking times and temperatures. It may be used also as a shelf for hot dishes. The inset pan or roaster has a wide overlapping rim which makes the roaster easy to keep clean.

The utility of the electric roaster as a "little electric range" was pointed out by R. Z. Sorenson, manager of table appliances for Westinghouse.

### IRONS

Westinghouse is producing two types of electric irons, one to retail at \$8.75 and one to sell at \$5.95. The new irons have automatic heat control and are identical to prewar irons. The cord length for the two new irons is 6 feet instead of 7 feet, in compliance with government regulations, according to R. Z. Sorenson, manager of the table appliance department at Mansfield, Ohio.

### GARBAGE DISPOSER

The East Springfield plant will produce in 1946, an electric unit, called the "Waste-Away," that will grind up garbage and flush it down the kitchen drain. Details of its construction will not be released until the unit is in production.

### CONVENTIONAL WASHERS

Westinghouse will produce a conventional washer in 1946, although details of its construction and operation will not be revealed until production begins.

### IRONERS

Westinghouse will produce an automatic ironer in 1946, although details of its construction and operation will not be revealed until production begins.

### 4 Round Oak Co. Range Ceilings Established

DOWAGIAC, Mich.—Approval of retail ceiling prices for four models of gas ranges manufactured by Round Oak Co. here was recently granted by OPA in Order 53 under Supplementary Order 119.

These prices include delivery, installation, and the Federal excise tax, but not any state or local taxes. If installation is not provided, retail dealers are ordered to deduct \$9 from these ceilings in the case of combination or bungalow ranges and \$6 in the case of gas ranges not of these types.

Model	Article	Zone 1 Each	Zone 2 Each	Zone 3 Each	Zone 4 Each
6E0604	Gas range	\$115.25	\$117.25	\$120.25	\$124.25
5E604	do	122.50	124.50	127.50	131.50
CG 404	Combination range	257.25	262.50	270.50	280.75
MB 404	Bungalow range	212.25	216.25	221.95	228.95

## Range Prices Being Held At '42 Levels, Says OPA

WASHINGTON, D. C.—The two types of electric and gas ranges now reaching the dealers—standard and apartment size models—are being held at 1942 levels, the OPA announced recently, adding the prices had been established on 80% of those lines expected to be produced this year.

Although the prices vary widely, as did range prices before the war, OPA cites a typical price for a standard electric range as \$189, and for an apartment size unit, \$157. A typical price for a gas stove is \$75 for a small size and \$95 for the standard model.

Manufacturers are required to pre-ticket each stove with its OPA retail ceiling price, and since each price includes the installation service charge and the federal tax, it represents the total cost of the stove to the consumer, with the exception of state sales taxes, if any, points out OPA.

With each electric range, a one-year guarantee of satisfactory performance must be given. Such guarantees also were given before the war.

## Apex Assigned Prices For 15 Washers

CLEVELAND—Maximum prices for sales of 15 models of wringer-type washing machines and three models of ironing machines manufactured by Apex Electrical Mfg. Co. here are contained in Order 42, MPR 86, recently issued by OPA.

Retail ceilings were established as follows:

Model No.	Zone 1	Zone 2	Zone 3	Zone 4
373	\$89.95	\$94.95	\$97.30	\$97.30
390	79.95	84.75	86.75	86.75
392	69.95	73.95	75.80	75.80
389	69.95	74.60	76.60	76.60
374	99.95	104.70	106.70	106.70
371	69.95	74.70	76.70	76.70
366	59.95	64.70	66.70	66.70
369	49.95	54.70	56.70	56.70
373P	99.95	104.95	107.30	107.30
390P	89.95	94.75	96.75	96.75
392P	79.95	83.95	85.80	85.80
389P	79.95	84.60	86.60	86.60
390G	104.95	109.75	111.75	111.75
389G	89.95	94.60	96.60	96.60
371G	99.95	104.70	106.70	106.70
541C	109.95	114.75	116.75	116.75
512C	99.95	104.70	106.70	106.70
533	34.95	35.95	36.50	36.50

Distributors are to determine their ceiling prices to dealers in accordance with section 15 of MPR 86.

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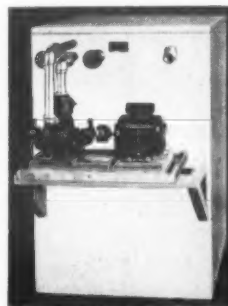
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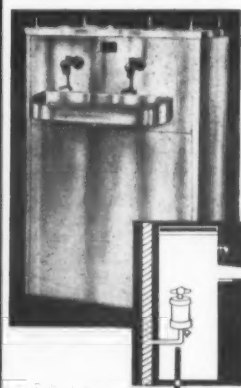
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## York's Institute--

(Concluded from Page 1)

refrigeration and air conditioning equipment, which revealed many new applications and a greatly increased market for such equipment postwar.

"But, in order to keep our manufacturing facilities up to capacity, we must sell and service in increased volume. We will succeed only in terms of how well our field forces are organized and trained.

"Before the war, 80% of our direct sales were by our district offices, with 20% done by independent distributors.

"For 1946, we predict that 60% of the sales will be by independent distributors, and 40% by our district offices."

(In a brief talk introducing Mr. Lauer, W. S. Shipley, chairman of the board of York Corp., declared that "industry must work to win the public's support and labor's support not in times of crisis, but when things are running smoothly. The lines of communication between management, labor, and the public must be strengthened. The communication line to the public in our industry is through the salesman and the service man—these are the people who must have the best training we can offer.")

Mr. Lauer also revealed that York has developed a number of new products, some of which are now in production, and which will be put on the market as soon as pricing and other problems have been worked out.

Included in the new products are three new models of room air conditioners, incorporating improvements in appearance and engineering

design, with the smaller units featuring a marked reduction in weight.

Also to come onto the market under the York nameplate will be a unique ice cube and shaved ice maker, farm and home freezers in various styles, central package type air conditioners, and other package units, Mr. Lauer declared.

The men that will come from the field to the Institute to take instruction in engineering, selling, and servicing refrigeration and air conditioning equipment will be sent to the Institute by the York distributing organizations, which will be given quotas established on the basis of so many to each York sales district.

The trainees must, in fact, be bona fide employees of a York distributing organization. The distributor will stand the travel and living expenses of men sent to attend the Institute. Where the trainee is a veteran of the Armed Forces, he can qualify for expense allotments under the "on the job training" provisions of the G.I. Bill of Rights.

The Institute building houses a series of individual classrooms, in which classes will be limited to a maximum of 30 people, and a good-sized auditorium where training films, slide and motion pictures may be shown for visual education.

Trainees will get the "feel" of working with refrigeration and air conditioning equipment in a laboratory setup that offers facilities that are complete, up-to-date, and in some cases, unique.

One item is a large refrigeration system, said by York engineers to be the first of its kind ever built, which is completely transparent even to the crankcase of the compressor.

A glass evaporator arrangement permits the trainees to follow the

action of the refrigerant from the inlet to the outlet, and the hookup is such that the evaporator may be operated with any kind of flow control or metering device—thermostatic expansion valve, automatic expansion valve, hand valve, high side float, and low side float (the two float assemblies also being constructed of glass).

Other equipment includes a manually controlled air conditioning system, a model repair shop setup with a hoist and block arrangement for large compressors, an operating ammonia system cross-connected for functioning on a water-cooling system or a low-temperature job; large refrigerated rooms—one kept at 40° F. and the other at 20° F., and operating exhibits of controls, blowers, tools, and many other parts and accessories.

Then there are installations which are built to "generate trouble," such as the "Freon-12" system for two walk-in rooms so hooked up as to automatically inject typical field trouble situations at the will of the instructor.

Under the sales training program, the Institute will offer intensive courses, including an application engineering course of six weeks' duration, sales engineering, and training for zone engineers who contact York distributors.

The sales field will be covered from the merchandising of the smallest packaged products to technical selling of engineered installations. This division of the Institute's training will be available to York men everywhere, with a number of refresher courses available for the existing field sales force. Tentative arrangements call for a rotation of the entire country-wide sales force through this

refresher course over a period of three years.

Installation, maintenance, and repair men in a distributor's organization will be eligible for the service training course, which will take about six weeks of study.

Reflecting the need uncovered during the war years for training men newly graduated to supervisory positions, York has included in the Institute's program a course on "factory management" training. Purpose of this is to show men in supervisory jobs how to meet the increased responsibilities of the new positions, and to bring about a uniformity of understanding and functioning throughout the organization.

The various trades to be taught under the apprentice training phase include: boilermaker, draftsman, electrician, heat treater, machinist, molder, patternmaker, pipefitter, plumber, refrigeration service mechanic, sheet metal worker, tool designer, and toolmaker. In basic machine operator courses, trainees spend two hours a day in the classroom, and the remainder of the day on the job under

a factory supervisor.

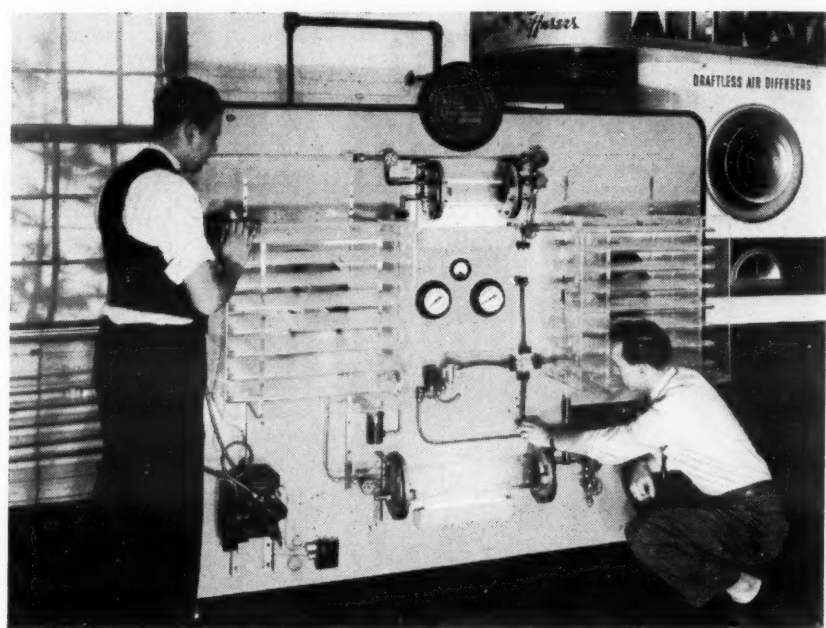
The York-Penn State College cooperative course is designed for men who wish to get a degree in engineering, and who wish to "earn and learn" in the corporation's shop and laboratory during part of the span of time that they get their education.

The cooperative course calls for alternating periods of school and work, including either work at the corporation or attendance at the college during the summer months. The student usually obtains his degree within five years. Those who are accepted into such a course agree to join York Corp. upon their graduation.

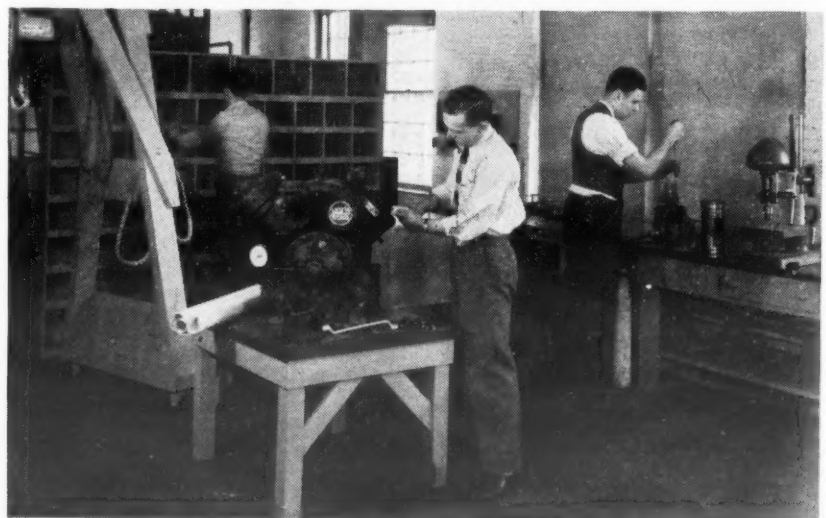
Veterans who qualify for educational benefits under the G. I. Bill of Rights can tie them in with this program, as far as the college parts of it are concerned.

Those who planned, and those who will staff the Institute, are all York Corp. men. The Administrative Staff consists of J. E. Moody, C. J. Brilling, F. J. Adler, E. W. Gallenkamp, M. G. Gable, H. A. Gross, A. Goodfellow.

## Facilities Enable Trainees To Learn By Seeing—and Doing



This "transparent" refrigeration system enables trainees at York's Institute to trace the complete compression refrigeration system cycle. The transformation of gas to liquid and back to gas again as the refrigerant flows through the glass evaporator and condenser can readily be seen. The two evaporators are arranged to handle any method of refrigerant flow control.



The compressor repair department at the Institute gives trainees instruction in repair methods by the "nut and bolt method." Compressors are dismantled, repaired, and reassembled, condensers are fitted with new tubing, and maintenance "know-how" is acquired under advantages duplicated only in the field. Hoist rig is for the larger compressors.



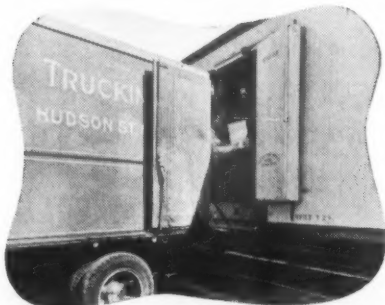
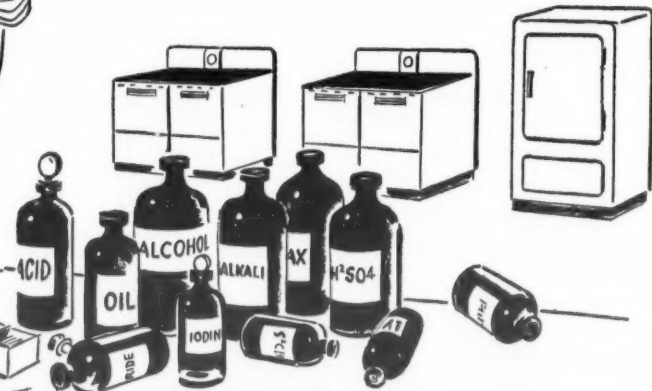
This hand-controlled sectional air conditioning unit makes it possible for the student to produce various conditions of temperature and humidity, depending upon problems presented by the instructor.

## Easily demonstrated advantages

## of FIBERGLAS insulation



**INORGANIC**  
A "LIFETIME" INSULATION



### DID YOU KNOW...

In refrigerated freight cars and motor trucks, as in most household appliances, Fiberglas is the "first choice" insulating material. Reason: It stands up under the severest vibration and retains its high insulating efficiency indefinitely.

Because insulation can play a big part in prolonging the useful life of a refrigerator—or range—or home freezer—in fact, of many home appliances, we suggest you "talk up" Fiberglas\* to your customers. You'll find it an unusually effective selling feature.

Fiberglas is not only extremely high in insulating efficiency and immune to both time and decay, but it doesn't settle or pack down. Yes, Fiberglas retains its insulating effectiveness indefinitely and, in doing so, helps appliances do a better job—at lower cost—for a longer period of time. Watch folks react to that selling story!

**FIBERGLAS THERMAL INSULATION**

\*T.M. Reg. U. S. Pat. Off.



## Prices Set on Bendix Models B-310, S-310

SOUTH BEND, Ind.—Bendix Home Appliances, Inc., was recently given OPA maximum price schedules to be used for sales of its Models B-310 and S-310 automatic washers.

Retail ceiling were set as follows:

Model	Zone 1 Each	Zone 2 Each	Zone 3 Each
S-310	\$177.75	\$180.75	\$187.75
B-310	201.75	204.75	211.75

Distributors' ceiling prices for sales to dealers are:

Model	Quantity	Zone 1 Each	Zone 2 Each	Zone 3 Each
S-310	6 or more	\$100.62	\$102.42	\$106.62
	3 to 5	103.10	104.94	109.25
	Less than 3	105.58	107.47	111.87
B-310	6 or more	114.80	116.60	120.79
	3 to 5	117.89	119.73	124.04
	Less than 3	120.69	122.58	126.98

These prices, established by Order 39, MPR 86, include delivery and installation.

## Prices on Washers Made By Holland-Rieger

SANDUSKY, Ohio—Five models of wringer-type washing machines and one model of ironing machine manufactured by Holland-Rieger Division of Apex Electrical Mfg. Co. are affected by a recent OPA pricing order.

Ceiling prices for these models were set as follows by Order 40, MPR 86:

Article	Model	Zone 1	Zone 2	Zone 3
Wringer-type washing machine	40	\$ 69.95	\$ 69.95	\$ 70.95
	40P	79.95	79.95	80.95
	60	81.25	82.50	84.50
	60P	91.25	92.50	94.50
	60G	108.25	109.50	111.50
Electric ironing machine	530	29.95	29.95	29.95

It was ordered that Section 15 of MPR 86 will determine distributors' prices to dealers.

## New Scarcity Looms In Shipping Containers

CHICAGO—While appliance manufacturers are currently most concerned with trying to up production schedules in the face of strikes and shortages, the National Lumber Manufacturers Association warns that there is likely to be a scarcity of shipping containers for most of the year.

War needs made an extremely heavy inroad into the nation's supply, and recently lumber production, particularly plywood, has been handicapped by strikes and shortages.

There is also a shortage in paper-board containers, although this may be expected to clear up sooner than the plywood shortage, it is thought.

"Unless plywood packing case production can be stepped up considerably there is serious danger that shipments of many of the items so badly needed will be delayed, with consequent retardation of the post-reconversion pace," stated Atlas Plywood Corp., one of the largest plywood packing case manufacturers.

"Fiber containers and wire-bound boxes might be available as substitutes, but, in many instances, those types of packing cases do not meet the needs of shippers of items requiring production that only a plywood case can give," said Atlas.

## Color Can Be Added To Parkerized Surfaces by New Immersion Process

DETROIT—A revolutionary chemical immersion process, imparting color to Parkerized iron and steel surfaces, and greatly increasing corrosion resistance of the coating, is announced by Van M. Darsey, president, Parker Rust Proof Co.

Color Parkerizing is a complex phosphate coating, integral with the metal surface, completely insoluble in water, which does not smudge, chip, or peel and effectively retards the spread of corrosion from abraded areas. It is available in gray, blue, purple, and green. Olive drab, which can be supplied, was widely used for camouflaging army equipment during the war. Excepting the gray, some fading due to sun exposure occurs, but this does not lessen the unusually high corrosion resistance of the coating.

Only simple additional equipment, in addition to the Parkerizing process, is needed and practically no extra labor is involved. The same drums or baskets used for Parkerizing can be carried through the color treatment tank for the two to six minute immersion.

Complicated shapes and parts with

threaded members and holes are coated equally as well as flat surfaces. The color coating results from chemical reaction, is uniform, without drips or tears.

The color finish has great value for assembly identification where parts of similar appearance may have different tensions, threading, fractional differences in length or head sizes or made from varying alloys, it was said.

Quick identification by color is especially useful in valves, sprinkler systems, and all assemblies using right and left hand threads.

## Kelvinator Canadian Firms Report Profit

LONDON, Ont., Canada—Kelvinator of Canada, Ltd., and its wholly owned subsidiaries, Leonard Refrigerator Co., and Refrigeration Supplies Co., report net profit for year ended last Sept. 30 of \$158,578 after provision for taxes on profits out of income.

After payment of dividends of \$100,000, the net working capital stood at \$1,227,460 as compared with \$571,565 the previous year-end. The working capital is by far the largest in the company's history and the annual report notes that it is adequate to permit a substantial expansion in Canadian activities.

## Gibson Distributors Get Increase For Warranty

GREENVILLE, Mich.—Distributors of new refrigerators produced by the Gibson Refrigerator Co. here may increase their ceiling prices by \$2 on each refrigerator if they sell it with the manufacturer's five-year warranty on the complete refrigerating system, OPA ruled recently in Order 6 to MPR 598.

## Motor Wheel Corp. Buys Lansing Propeller Plant

LANSING, Mich.—Formerly operated by the Nash-Kelvinator Corp., the Mt. Hope Ave. airplane propeller plant in Lansing, will be sold to the Motor Wheel Corp. of Lansing for \$1,137,526.54 subject to the priority right of governmental agencies, the War Assets Corp. has announced.

The buyer, according to declared intention to the War Assets Corp., the agency designated by the Surplus Property Administration for the disposal of government-owned industrial properties in the interest of continued employment, will convert the Lansing project to the production of gas and oil heaters and furnaces.

# no Defrosting

They're asking for it EVERYWHERE!



it's a **DUAL-TEMP**

...the 2-in-1 Refrigerator

No Defrosting! Mister, there's sales magic in those two words! Women everywhere are saying, "I want the refrigerator that features 'No Defrosting'." Just pick any woman prospect, and say, "This is Admiral Dual-Temp, with the huge moist-cold compartment that never has to be defrosted." You can bet she'll be interested. Then tell her about other Dual-Temp features such as a roomy built-in freezing locker that really quick freezes and stores up to 2 bushels of frozen foods for months—no need for covered dishes—Sterilamp protection against bacteria and mold—lots more room for foods. She'll be more than interested... you can chalk up a sale! Better get in touch with your Admiral distributor today.

*Admiral Corporation*

Chicago, 47

REMEMBER!

only... **Admiral**

CAN BUILD A DUAL-TEMP



You can make quick, easy sales, and count on steady business at all seasons when you sell rugged, long-lived, efficient Gilmer V-Belts.

You can count on customer satisfaction too, for Gilmer V-Belts fit—no repeat calls are necessary. And the low stretch cords assure a permanent fit.

Gilmer V-Belts are supplied in carefully chosen assortments that meet most small belt needs. Get in touch with your jobber today.

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Division of United States Rubber Company

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OF AMERICA

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SPECIALISTS FOR 40 YEARS.





## They'll Do It Every Time . . . . By Jimmy Hatlo



Buy VICTORY Bonds



# The PHILCO FREEZER

...A Sensation of Engineering Research!



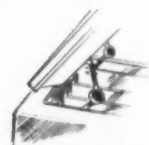
Model AH51



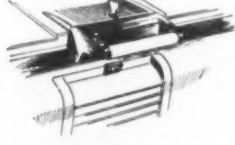
**TEMPERATURE CONTROL**  
Adjusts for temperatures from 15° to 25° below zero. Built-in lock prevents tampering.



**WARNING BELL**  
Rings automatically at 12° above zero. Warns of electrical failure. Rings for 48 hours or until it is shut off.



**COUNTERBALANCED LID-STAY**  
Holds the lid open in any desired position above the 30° angle.



**LOCKING LID LATCH**  
Unlatches and lifts lid with one motion. Equipped with built-in lock.



**FIBERGLAS INSULATION**  
Finest insulation material known. Proof against moisture, vermin.



**BUILT-IN THERMOMETER**  
Readily visible from the outside, it shows interior temperatures.

The Philco Freezer is the product of years of engineering research and costly development work. The result is apparent not only in its visible features of efficiency, convenience, and food protection but also in its hermetically sealed power unit, its one-piece, drawn aluminum interior and many other hidden details of construction which make it a freezer of the finest quality and utmost dependability. The more closely and expertly you examine the Philco Freezer, the more you realize that it stands alone in its field . . . a sensation of engineering research!

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VOLUME 47, No. 6, SERIAL No. 882, FEBRUARY 11, 1946

## Compressor Business Is No Bed of Roses

TREND-RECORDING and interpreting is one of the duties of an editorial page. Acting in that capacity, several weeks ago we noted that there exists a terrific demand for condensing units, and that if somebody wanted to make a million dollars, here was his opportunity.

Of course, we noted, there was a "catch" to this proposition!

To our complete surprise, a number of letters arrived in response to this editorial. Chiefly they came from cabinet and special unit manufacturers, and from would-be assemblers of home freezers.

In effect these letters said:

"We'll invest money in a proposition if you can find someone who wants to go into the condensing unit business. We're desperate, etc., etc."

But of course we aren't going to find anyone who'd be foolish enough to enter the field. Making condensing units is nothing like making toys or bicycles or pots-and-pans. It takes experience.

Investment money isn't the problem—it's *know-how*.

Nor can you buy that *know-how*. Where are you going to hire the designing engineers, and the production experts? Answer: they just aren't available; that is, none who'd do you any good.

Furthermore, it's a tough business. Those who are in it are soundly entrenched. Another thing: the prices quoted, the discount schedules maintained would frighten any newcomer. No, this isn't a business for anybody who is looking for a soft touch.

Nor are there aspiring firms eyeing this field toward which we can direct investment money—not without suffering pangs of conscience.

However, to all the hungry clients of the condensing unit industry, we do have something favorable to report.

This, too, comes under the heading of taking note of current trends in the field.

Present manufacturers of condensing units are expanding their capacity. And that's the logical place for said expansion to come from . . . because they have the *know-how*.

When they build a unit, they're sure—and you can be sure—it will run efficiently when it's actually out in the field, installed on a job.

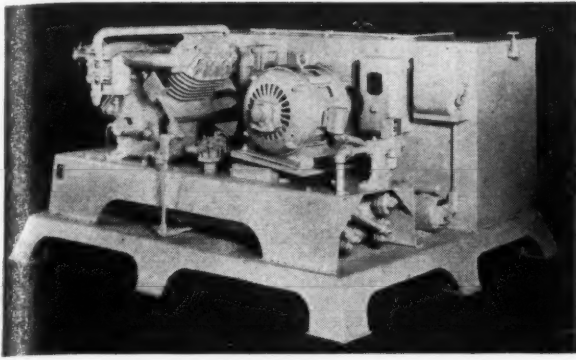
This added capacity naturally won't show up for quite awhile. Steel and motors and castings and components are bottlenecks that won't be broken for several moons.

But when the country makes up its mind to go back to work again, there will be plenty of manufacturing capacity in the condensing unit business to satisfy all needs.

And unless the nation is forced into an economical tailspin, that terrific consumer market you people are so anxious to get at will still be there, waiting for you.



## Compact Assembly For a Relatively Big Job



This compactly designed instantaneous water cooling unit for use primarily in beverage bottling plants has the condensing unit and the chilling unit mounted on the same base.

## Potter & Rayfield Introduces Units For Bottling Plants

ATLANTA—A line of new instantaneous water cooling units designed primarily for beverage bottling plants was announced recently by Potter & Rayfield, Inc., here.

Intended mainly to cool water prior to carbonization, the units are manufactured in four models with refrigeration furnished by Brunner compressors. Installation requires only the making of water and electrical connections, it is claimed.

The P&R cooler is described as being constructed of a single base on which is mounted the tank and compressor. All connections are made between the water cooling tank and the condensing unit.

Thermostatically controlled and providing a water temperature uniform within 2°, the units are produced in the following horsepower and capacities: No. 1—3 hp., 75 g.p.h.; No. 2—5 hp., 125 g.p.h.; No. 3—7½ hp., 175 g.p.h.; and No. 4—10 hp., 250 g.p.h. The company pointed out that these capacities will vary with the incoming water temperature.

P&R claims the coolers will produce a uniform water temperature of 38° to 40° for the full capacity of the bottler's filling equipment. Capacities of the tanks are based on the capacities of filling equipment.

It was explained, in a description of the coolers' function in carbonization, that cool water is necessary because of the fact that the colder water gets, the more CO<sub>2</sub> it can absorb. The CO<sub>2</sub> is used to eliminate flatness of a beverage.

All equipment is tested in the plant under actual working conditions for at least two days before shipment, P&R said.

## Frontier Refrigeration To Occupy New Building

BUFFALO—The Frontier Refrigeration Co., 904 Main St., announced that it expects to occupy on April 1 its new building being erected at 872 Main St., at a cost, including equipment, of \$80,000.

The two-story structure, with basement, has a frontage of 50 feet on Main St. and a depth of 90 feet. The company, owned by David M. Zimmerman and Paul R. Readett, handles Frigidaire products.

## Marlo Names Kain Purchasing Agent

ST. LOUIS—Harold Kain has joined Marlo Coil Co. here as purchasing agent.

Mr. Kain was recently discharged from the Army after three years of service, including 23 months overseas duty in the European theater of operations.

Prior to joining the Armed Forces Mr. Kain had been purchasing agent for Koch Refrigerators, N. Kansas City, Mo.

## Stella Products Is New Commercial Distributor

DETROIT—After nearly five years in the Army Air Forces as a post-exchange officer, Maj. F. D. Stella has organized a commercial refrigeration distributorship which will be headquartered at 15111 Livernois Ave. here.

The firm, F. D. Stella Products Co., will act as distributor throughout most of Michigan and the northern part of Ohio for Viking, Ace, Emery Thompson, Goodsill, and Uniflow lines of beverage coolers, display cases, frozen food display cases, home and farm freezers, water coolers, and ice cream equipment.

A direct retail operation will be set up in the Detroit area, concentrating on smaller independent stores and factories, Maj. Stella said. Formerly in the banking field, Maj. Stella hopes to add a line of air conditioners and provide a complete store remodeling service in the near future.

Commercial refrigeration repairs will also be handled by the firm with J. W. Byrnes, formerly of Sedalia, Mo., in charge. During the war Mr. Byrnes was a civilian refrigeration and air conditioning expert attached to an Army air base.

## Air Control, Inc. In Omaha Is Reincorporated

LINCOLN, Neb.—Air Control, Inc., an Omaha firm to manufacture and deal in air conditioning equipment, has filed articles of incorporation with the secretary of state with authorized capital of \$100,000 and the right to commence business with \$1,000. Incorporators are Harry R. Frankie, Milton S. Frankie, Phineas Wintroub, and Louis B. Wintroub, all of Omaha. The corporation had been dissolved in 1943.

## Snooks Heads Dealers

BEAUMONT, Tex.—C. A. Snooks is president of the Retail Refrigeration Dealers and Service Engineers here. Other officers are Bert Terry, vice president; E. W. McDonald, secretary; F. R. Rogers, treasurer.

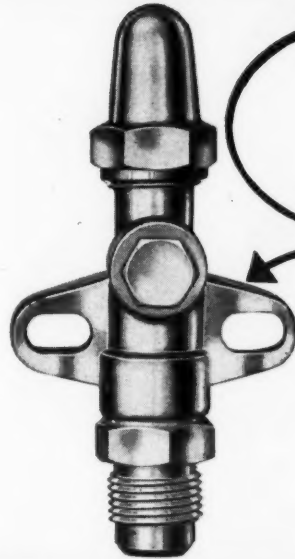
## Haverly Has Fire

SYRACUSE, N. Y.—The Haverly Milk Cooling Mfg. Co. plant, 1970 W. Genesee St., was damaged by a fire in the cork insulation recently. The sprinkler system in the building saved it from serious damage.

## McCarroll Transferred

ASHEVILLE, N. C.—H. P. McCarroll has been transferred from his position of assistant manager of the Knoxville, Tenn., Sterchi Brothers Furniture Co. branch to assume the post of manager in the store here.

## Another SUPERIOR FIRST

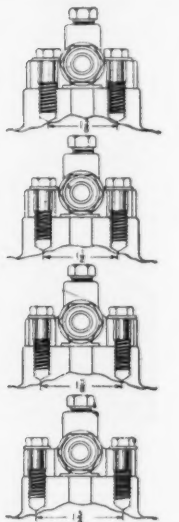


## The "UNI-HOLE" Flanged Compressor Valve

... Has Universal bolt holes for use with 5/16" bolts or cap screws, to facilitate installation on compressor flanges having 1-3/8", 1-1/2", 1-5/8", or 1-3/4" centers.

Simply install the "Uni-Hole" Valve in its proper position ... add the two heavy washers (supplied with each valve) between the flange and bolt, or cap screw head ... then tighten. That's all there is to it!

Ask your Jobber to show you the SUPERIOR "Uni-Hole" Flanged Compressor Valve. You're sure to like it! It's a natural ... and besides saving you installation time, it reduces your stocking problem. One size does the work of four!



The diagrams at the right tell the story.

# SUPERIOR

# VALVE & FITTINGS COMPANY

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OFFICES IN PRINCIPAL CITIES • STOCKS: CHICAGO (6) • LOS ANGELES (15) • JOBBERS EVERYWHERE

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## QUALIFIED REFRIGERATION SPECIALISTS

## Qualified...

For forty years, we have been engineering and building quality products—precision-made to render years of satisfactory service. This experience, plus a constant alertness to new developments, has qualified us for the most intricate jobs.

## Refrigeration...

We are not only builders of fine Refrigerator Units. We are the designers and creators of hundreds of commercial and industrial Refrigeration Installations. In fact, to thousands of users, HUSSMANN is the first thought when it comes to Refrigeration of every sort.

## Specialists...

A plant that has more than 300,000 sq. ft. of floor area is devoted exclusively to the manufacture of refrigerators and refrigeration equipment. No division of interests or attention here. If it's HUSSMANN—it's Refrigeration!



# HUSSMANN

## REFRIGERATION, INC.

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## Dinners in 22 Minutes

Quick-frozen, precooked, ready-to-serve meals aren't an idea for the future—they're here

Imagine a meal that can be fixed in minutes instead of hours and offers the cooking genius of a queen's chef, yet requires no skill to prepare. Furthermore, it allows everyone at the table the individual dish of his own selection; eliminates the food waste of spoilage and leftovers, and the drudgery of potato peeling, shelling and the other minutiae of food preparation. And, finally, it makes shopping quicker, cleaner, more compact, saves kitchen storage space; and even cuts out dishwashing!

Cease imagining, for Americans have eaten more than half a million of these culinary wonders in the past nine months, mainly on U. S. Army and Navy planes.

Producer William L. Maxson expects to sell 25,000,000 more meals this year in retail stores and shops from coast to coast. Prices may run about one-and-a-half times the cost of the raw food. Maxson's Queens Village (N. Y.) plant, working like an automobile assembly line under the supervision of a former chef of Queen Marie of Rumania, produces 50 different precooked, frozen meals.

Other companies are also making the frozen meals. Its sponsors believe it will be a boon to working wives, career women, bachelors, people in a hurry and homemakers who wish an occasional vacation from the kitchen.



2:00 P.M. "How about dinner?" asks Mother. "I'll have a steak," says Dad, and the kids chime in with their choices. Mother goes to kitchen, clicks switch that starts oven's seven-minute warm up.

2:06 P.M. From freezer compartment, Mother takes four frozen meals which may be stored safely as long as a year.

2:07 P.M. Mother puts the meals in special six-tier Maxson oven. An ordinary oven will do, but requires more time.



2:10 P.M. While oven finishes cooking, begun weeks before in Maxson plant, Mother makes coffee, daughter sets table.

2:22 P.M. Bell rings 15 minutes after insertion of dishes. The meals emerge sizzling, and ready to be served at once.

The family served, Mother joins them with her own dish. The lacquered cardboard plates in which meals are heated and served, are water-, heat-, grease-resistant, are discarded at meal's end.

Pictures reprinted from Look "America's Family Magazine"

## Frozen Foods Get a Play From 'Look'

**Editor's Note:** In the first three columns to the left on this page is a replica of a full page article "Four Sunday Dinners in 22 Minutes" which appeared in the Jan. 8 issue of *Look Magazine*. On an opposite page, in colors, were depicted the individual quick-frozen dinners that were available.

AIR CONDITIONING & REFRIGERATION NEWS reprints this material with the permission of *Look Magazine* as a matter of general interest to the industry, and as a representation of the type of powerful publicity being given to the frozen foods field in the public press.

## Maxson 'Frozen Meals' Invade Canada

TORONTO, Ont., Canada—First of a number of units to be set up in Canada, a plant now is being outfitted in Toronto for distribution in the city of the quick-frozen, precooked meals originated in the United States by Maxson Food Systems, Ltd.

The Toronto plant is a Dominion chartered and financed company holding exclusive Canadian rights for Maxson quick-frozen foods. All finances for the Canadian company are being provided by the Vincent Mining Corp., Toronto, and the company will be operated by the corporation's industrial division. No public offering of shares will be made.

## Refrigerator Engineering Co. Starts \$200,000 Building

LOS ANGELES — Construction work has been started on the \$200,000 steel frame and concrete factory building at 5450 West Jefferson Blvd. here, for Refrigerator Engineering Co. of 6107 Central Ave., Los Angeles. The structure will be 262 ft. long and 162 ft. wide.

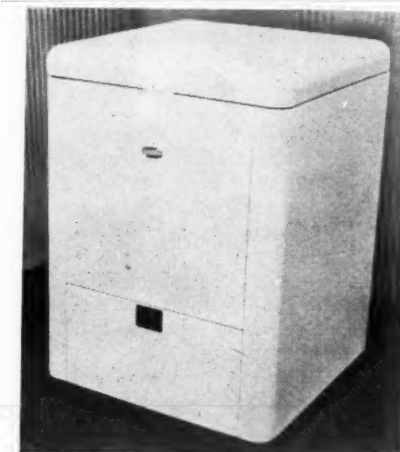
## Coldaire Corp. Will Build Home Freezers, 3 Cu. Ft. Job First

CHICAGO — Formation of the Coldaire Corp. here and the introduction of its new 3-cu. ft. home freezer priced at \$195 have been announced by Charles W. Stillman, executive vice president of the new company. OPA ceiling is \$260.

Formerly international sales manager for Carrier Corp., Mr. Stillman also directs the frozen food activities of the Bob White organization, Chicago food industry consultants.

Cabinets will be manufactured by Kellett Aircraft Co. of Philadelphia to specifications of the White organization. Coldaire Corp. is to handle the merchandising and distributing activities in this three-way tie-up.

Exterior design, capacity, and engineering of the new cabinet were based on extensive consumer research by the White organization, according



'Coldaire' Home Freezer.

to Mr. Stillman, who added that emphasis was placed on designing and engineering the cabinet for use in the kitchen. The model features a flush counter-balanced lid, table-top height, and a recessed base.

The 3-cu. ft. cabinet, with a capacity of 120 pounds of frozen foods, will hold more than a week's supply of frozen foods for the average family of six.

Initial production, scheduled to start this month, will be concentrated on the 3-cu. ft. model, but a complete line of home and farm units and retail store display units is contemplated. Full-scale deliveries should be reached in March or April, and the total production figure for the year is estimated at 100,000 units.

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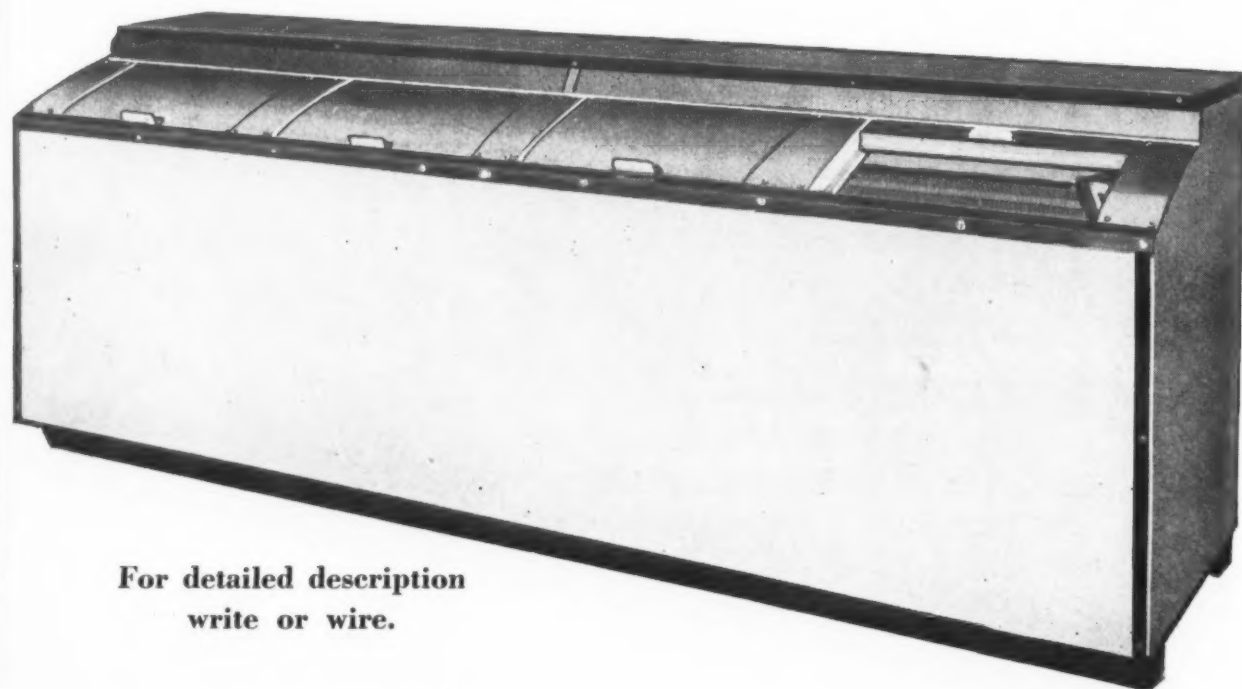
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## Price Increase Factors, Discounts Fixed for Weber Cases, Frozen Food Cabinet Lines

LOS ANGELES—Price increase factors and distributor and dealer discounts have been established by OPA for the refrigeration line produced by Weber Showcase & Fixture Co. here. Separate pricing methods apply to the Weber line of frozen food cabinets.

List price for the standard line, including such parts and accessories as scales, hooks, racks, and stands is obtained by multiplying the current maximum net prices to distributors and jobbers by the factor 1.8182 and rounding the resultant figure to the nearest dollar.

For frosted cabinets and accessories the list price is obtained by using the factor 1.6667 figured to the nearest dollar.

A 30% discount on the new list prices has been established on sales to dealers of both the standard line and frosted food cabinets.

A discount of 40% is to be allowed on sales of the regular line to chain stores; and a 30% discount on sales of frosted food cabinets.

"Weber-financed" distributors are to receive a 40% discount on the standard line.

Self-financed distributors or jobbers will receive a 45% discount on the standard line and a 40% discount on frosted food cabinets.

Prices for sales of the standard

line by the Weber company are f.o.b. factory.

The new maximum net prices will be "subject to cash discounts and allowances, not including transportation allowances, and the rendition of service which are at least as favorable as those which each seller extended or rendered or would have extended or rendered to purchasers of the same class on comparable sales of commodities in the same general category on Oct. 1, 1941, for Weber, and during March, 1942, for all other sellers," the OPA ruling states.

Resellers of the standard line may add to their maximum net prices the actual amount of freight charges for delivery to their places of business.

Each seller, including the manufacturer, of frosted food cabinets and accessories may add to the maximum net prices the following net delivery charges:

Model	Description	Shipping weights (in lbs.)	Net delivery charges
H 455	4-cu. ft. frosted food cabinet	500	\$ 5.00
H 705	8.3-cu. ft. frosted food cabinet	600	6.00
S 1005	11.0-cu. ft. frosted food cabinet	750	7.50
D 1205	12.0-cu. ft. frosted food cabinet	800	8.00
D 2005	20.0-cu. ft. frosted food cabinet	1,050	10.50
D 2805	28.00 cu.-ft. frosted food cabinet	1,400	14.00

## Iceberg Distributors to View Line at Cincinnati

CINCINNATI—Distributors will get a preview of the new frozen food storage units produced by Iceberg Refrigerated Locker Systems, Inc., of New York City at a special showing to be held Feb. 25 and 26 at the Alms hotel here, announces Sam C. Mitchell, general sales manager.

Discussions of the company's new product and its features; talks on policies, production, and deliveries; service and installation; potential market; how to reach that market; advertising plans; prices and discounts; and a talk on the future of frozen foods will be presented for the distributors, Mr. Mitchell said.

In addition to Mr. Mitchell, other

Iceberg executives who will participate in the meeting include Ross R. Smith, president; Dr. Huston St. Clair, vice president; Jack Barragar, service manager; and C. E. Staudinger, vice president of LaRoche & Ellis, the Iceberg advertising agency.

On view at the meeting will be Iceberg's frozen food storage units. These are sectional, portable, self-contained units ranging in size from a 10-drawer utility unit of 60-cu. ft. capacity to 60-drawer commercial units with 360-cu. ft. capacity. These units, the company emphasizes, eliminates the necessity of entering rooms chilled to zero temperatures to store frozen foods.

## Lehigh's Inspection Chief



DONALD A. ANDERSON

LANCASTER, Pa.—Maj. D. A. Anderson, who during the war was responsible for the integration of industry and the War Department in the production and inspection of mortar shells, has been placed in charge of all inspection for the M & E Refrigeration Division of Lehigh Foundries, Inc., announces J. C. Miller, general manager.

A graduate engineer from the University of Wisconsin, Major Anderson was a design engineer for the Case Co. of Rockford, Ill. before he joined the Army Ordnance.

## Prices on 12 Models of Sunroc Water Coolers Run from \$181 to \$840

GLEN RIDDLE, Pa.—Prices on 12 models of electric water coolers produced by Sunroc Refrigeration Co. have been established for two types of dealers and consumers. Retail figures range from \$181.50 to \$840.

Maximum net prices established by Order 252, MPR 591, are subject to "discounts and allowances and the rendition of services which are at least as favorable as those which each seller extended or rendered or would have extended or rendered to purchasers of the same class on comparable sales in the same general category on Oct. 1, 1941," the order states.

Actual freight charges and crating charges, not to exceed \$6, may be added to the following prices:

Model No.	Dealer Without Service	Dealer With Service	Consumer
NM1B	\$139.30	\$149.25	\$199.00
NM2B	164.50	176.25	235.00
NM3B	199.50	213.75	285.00
NM4B	245.00	262.50	350.00
US-8	147.00	157.50	210.00
US-18	164.50	176.25	235.00
A-1510	336.00	360.00	480.00
A-2216	367.50	383.75	525.00
A-2515	441.00	472.50	630.00
A-2520	472.50	506.25	675.00
A-2535	588.00	630.00	840.00
US-7B-2	127.00	136.25	181.50

## A Preview Announcement of the New 1946 CHASE WHOLESALE PARTS CATALOG

★ It's full of useful information—New Products—Latest Prices. Page after page of PARTS, TOOLS and SUPPLIES from Nationally Known Manufacturers. Everything arranged in handy, compact style to save valuable time in ordering.

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## Dealer & Retail Prices Set for Ironrite Units

DETROIT—Ceiling prices for four models of ironers manufactured by Ironrite Ironers Mfg. Co. here were recently announced by OPA.

For sales by dealers to consumers, the following schedule was fixed:

Models	Zone 1	Zone 2	Zone 3
70	\$119.95	\$124.95	\$129.95
70G	119.95	124.95	129.95
75	139.95	144.95	149.95
75G	139.95	144.95	149.95

The following prices apply on sales by distributors to dealers:

Models	Zone 1	Zone 2	Zone 3
70	\$75.49	\$78.62	\$81.79
70G	75.49	78.62	81.79
75	88.08	92.84	94.38
75G	88.08	92.84	94.38

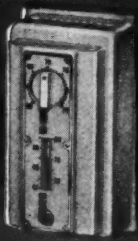
## Are you looking for distribution of FREEZERS?

Nationally known manufacturer with excellent sales and dealer organization now selling farm equipment nationally will enter discussion with manufacturers of freezers regarding distribution and sales.

Write fully describing your product sizes, prices and discounts. Tell us of previous sales experience with line. Also describe plant facilities. All information received in strictest confidence.

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### Refrigeration Temperature Control

Remote-bulb type, ideal for controlling duct temperature on air conditioning jobs and all types of general applications where it is necessary to protect switch from excessive moisture. Hydraulic-Action. Series 1600.



### Selective Range Temperature Control

Widely used on beer coolers, vegetable and meat display cases and similar equipment. Selective range, any 10° of the total range may be chosen for adjustment by user. Hydraulic-Action. Series 1600.

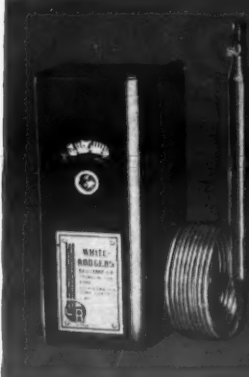


### Space Thermostat

Self-contained type for use with two-wire control systems. Hydraulic-Action principle provides unusually close control. Ideal for walk-in-boxes, display cases, unit coolers and air conditioning installations. Series 200.

### Room Thermostat

Light-duty, line-voltage type, featuring the Touch Temperature adjuster and visible recessed thermometer. Attractive finish in Ivory with chrome trim. Series 180.



### Room Thermostat

Heavy-duty line-voltage room thermostat with uniformly calibrated dial for use on unit cooler and air conditioning installations. No relay necessary on most installations. Hydraulic-Action. Series 150.



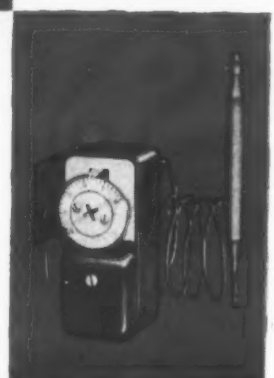
### Dual Pressure Control

Combines in one case, controls for both high-side safety and suction pressure. Complete and uniform calibration throughout range permits immediate accurate adjustment of cut-in and cut-out pressures. Series 1500.



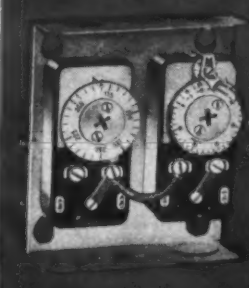
### Temperature and Pressure Dual Control

Hydraulic-Action temperature control, and high-side safety pressure control in one compact easy-to-install case. Series 1600.



### Manual Re-set Temperature Control

Re-set button permits starting the compressor immediately after loading the cooler. For general service, particularly adaptable for milk cooler service. Hydraulic-Action. Series 1600.



### Pressure Control

Types for both low-side and high-side control. Direct reading dial, easy to set. Adjustable differential—remains constant over full range. Series 1500.



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Ideal for applications where size and mounting convenience are a factor. Available in standard ranges for A.C. or D.C. Hydraulic-Action. Series 1700.



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Controls for Refrigeration • Heating • Air Conditioning



## New Wholesaling Firm Set Up In Raleigh, N. C.

RALEIGH, N. C.—Electrical Wholesalers is the firm name under which Arthur Gould will conduct business at 911 Belmont St. here, it was learned recently.

Among the lines which Mr. Gould will handle are: Miracle small appliances, Copeland water coolers, One-Minute washers, Thermador and White water heaters, and Marian and Quality electric ranges.

Mr. Gould has been in the electrical appliance business here for years.

## Parker Rustproof Names Research Dept. Heads

DETROIT—Dr. R. C. Gibson has returned to his former position as director of research at Parker Rust-Proof Co., and a number of other promotions and additions have taken place in the company's research department.

H. J. Lodeesen has been promoted to the position of assistant research director; and Dr. E. W. Goodspeed, former assistant research director, is now assisting in the office of the president.

New additions to Parker's research staff include Dr. George A. Baumstark, formerly with the Firestone Tire & Rubber Co.; Richard I. Somers, previously affiliated with the Willow Run Bomber Plant; and Amos R. Anderson and Charles G. Neuroth, both of whom worked on the atomic bomb project with the Houdaille-Hershey Corp.

## Arizona Contractors Postpone Convention

PHOENIX, Ariz.—Arizona Refrigeration Association has elected as president for the coming year G. W. Lance, Ace-Lance Refrigeration Co., Phoenix. He succeeds Roy L. Perry. Vice president is Forest Barka, Barka Refrigeration Service, Phoenix; secretary-treasurer, Orin Hodges, Arizona Refrigeration Service, Phoenix.

Directors are the above named officers and Leonard Lawson, Lawson Refrigeration Co., Phoenix; and Roy L. Perry, the retiring president.

The association's annual convention, which was tentatively scheduled to be held Feb. 22, is postponed to a future date which will be determined and announced by the directors. Postponement was due to difficulty in assembling equipment for display in the annual educational exhibit open to the public which is a feature of the Arizona association's convention. As soon as this situation is sufficiently improved, the convention date will be set.

## Igloo 10-Cu. Ft. Model Is Priced at \$360

CINCINNATI—A retail ceiling price of \$360 was recently set by OPA for a 10-cu. ft. refrigerator manufactured by Igloo Foods, Inc., here.

The unit, powered by a 1/4-hp. condensing unit, will sell at maximum prices of \$180 to distributors and \$216 to dealers, according to Order 233, MPR 591.

## Baldwin Again With Frigidaire on Coast

DAYTON—F. H. Baldwin, former Pacific coast zone manager, has returned to the Frigidaire organization after three years service in the Navy and assumed the position as Pacific coast regional representative, reports R. G. Hutchison, manager, Pacific coast region of Frigidaire.

Mr. Baldwin's association with Frigidaire began in 1928. In 1938 he became Pacific coast zone manager, a position he held until his enlistment in the Navy in 1942. At the time of his discharge from the Navy he had attained the rank of Lieutenant Commander.

## Koenig Heads Sales For Tagliabue Division

PITTSBURGH—The Portable Products Corp. of Pittsburgh has appointed new sales managers for the Paul and Beekman Metal Stamping Division at Philadelphia and the C. J. Tagliabue Instrument Division at Brooklyn, according to John C. Sykora, vice president and director of sales.

A. G. Koenig is named general sales manager of the Tagliabue Division where he succeeds E. D. Wacker, who had been previously appointed general manager of the Tag Division. Mr. Koenig has been with the Tagliabue organization since 1928 when he was made southwestern manager with headquarters in Dallas, Tex.

E. R. Jacobsen is named sales manager at Paul and Beekman.

## Penn Field Executive



E. A. PRICE

\*\*\*

## Price Will Manage Penn's Dallas Branch

GOSHEN, Ind.—R. H. Luscombe, sales manager, Penn Electric Switch Co., has announced the appointment of E. A. Price as manager of the company's Dallas branch office at 302 Wilson building.

A graduate of the University of Minnesota with a degree in electrical engineering, Mr. Price was a sales engineer at Penn's home office from March, 1937, to September, 1941, when he was commissioned an Ensign in the U. S. Naval Reserve. He served as an engineer officer on LST's and as officer-in-charge of a Landing Craft Repair Unit in the Pacific. In November, 1945, Mr. Price was honorably discharged with the rank of Lieutenant Commander.

## Paint Store Chain To Take on Appliances

ST. LOUIS—Ozark Paint Stores, which operate 12 retail stores in this city, will install major appliance departments in each store as fast as materials and stock can be acquired, according to an announcement by M. G. Dorton, recently appointed general manager for the St. Louis area.

In addition to radios, a complete line of general appliances, stokers, and gas appliances, the stores will carry gas and electric ranges, two lines of refrigerators, and home laundry equipment.

The size of each department will depend upon the size and neighborhood of each, according to Mr. Dorton, and each will be "separate" to the extent that it will be operated by men trained to sell only appliances. Mr. Dorton, before coming to this highly successful chain of paint stores, was formerly sales promotion manager for major appliances for General Electric Supply Co. here, and has many years of experience in establishing new appliance outlets in the St. Louis area.

## Lincoln, Neb. Schools To Teach Refrigeration

LINCOLN, Neb.—Weekly classes in principles of refrigeration got underway early in February at Lincoln Central high school under the direction of L. H. Alberty, director of vocational education, city public schools. The course is for adults in trades and industries and for veterans who are working in "on the job" training in refrigeration service establishments. The course will cover checking and trouble shooting, general repair of refrigeration systems, valves, and controls.

## Detrola Reports Increase in Profits And Total Assets

DETROIT—Consolidated net profit of International Detrola Corp. in 1945 was \$882,324.65, compared to \$820,478.77 in 1944, President C. Russell Feldmann told stockholders last week.

Consolidated sales for the fiscal year ended Oct. 31, 1945, were \$36,244,179.76, an increase of \$6,939,436.63 or 23.7% over 1944. The figures include the four months of Rohr Aircraft Corp. operations after the California company became a subsidiary on July 1, 1945. Excluded from operations are Universal Cooler Corp., Utah Radio Products Co., and Caswell-Runyan Co.

The financial statements, sent in advance of the company's formal annual report which will be published in a few weeks, also disclosed that International Detrola increased its assets during the fiscal year to \$27,422,768.87 from \$14,011,974.34, principally as a result of the transactions which extended its interests in the electrical home appliance field.

Shareholders are asked to approve an increase from 1,200,000 to 2,500,000 in the number of authorized shares of \$1 par common stock because fewer than 300 shares of the previous authorization are unissued. Shareholders are informed that "while the management has no specific transaction in mind for which the additional shares of authorized stock might be issued, it is important that additional authorized stock be made available."

## Acme Refrigeration Buys Sacramento Site

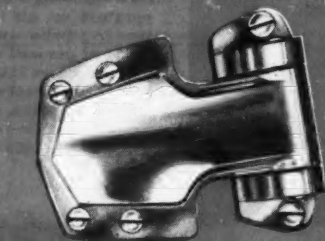
SACRAMENTO, Calif.—Acme Refrigeration & Equipment Co., 619 J St., has purchased an 80 by 80 site at the northwest corner of California and Seventh Sts., this city, for an addition expected to cost \$100,000.

## America's Quality Line of COMMERCIAL REFRIGERATOR HARDWARE



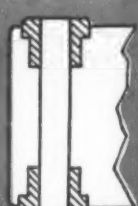
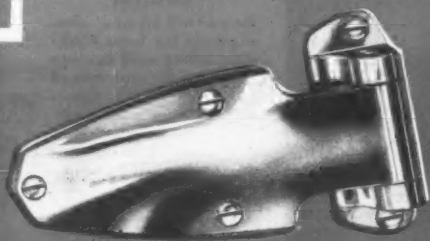
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Grand Rapids Brass Company designs its hinges for extra stamina, as well as good looks. Hinges shown are made with exclusive Oilite bronze bushings and stainless steel pins. This combination gives a wear-proof, sag-proof bearing surface . . . self-lubricated for life.



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given us new techniques . . . new methods, new engineering "know-how" . . . all of which are reflected in today's products. Items shown on this page, and many others, are available now, in various sizes. We'll be happy to provide full information and quotations. Drop us a line today!

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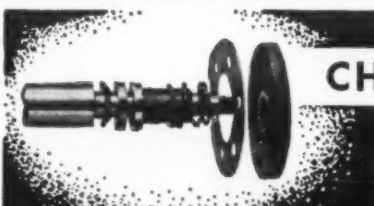


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Acknowledged as the industry's most effective seal for replacement (even on scored or bent shafts) because it has the self-adjusting sleeve-lock. Quickly installed. For REAL SATISFACTION never accept a substitute. At all jobbers.

Chicago Seals are best for Coldspot. Only Chicago Valve Plates have replaceable valve seats.

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## What's New

### Hotpoint In Production On Cabinets, Sinks



Top model in Hotpoint's kitchen cabinet line is this utility unit containing 28 cu. ft. of space for cleaning utensils and supplies.

CHICAGO — Metal cabinet sinks and kitchen cabinets are now in production at Edison General Electric Appliance Co., completing the company's reconversion program and placing in production all appliances of the all-electric kitchen package.

The first kitchen cabinet models come in seven widths for wall installations, and six widths for base-cabinets with working surfaces. Appearance of the cabinets and cabinet sink is termed "severe" with "bright trim" being the only embellishment.

A feature of the postwar cabinet line, Mr. Fellmann said, is a utility cabinet containing 28 cu. ft. of storage space, so constructed as to permit kitchen storage of cleaning utensils and supplies. He said that it was designed to match the other "complete kitchen" equipment, with an upper and lower set of doors that "break" at the eye-level of the wall cabinets.

Other features of the Hotpoint cabinets include one-piece insulated doors with the seam welded at the hinge side; recessed backs for flush-to-wall installation; adjustable shelves throughout; patented hinges that stop door swing short of collision with adjacent objects; rubber bumpers; and drawers on roller-bearing slides. The cabinets are finished with two coats of enamel, baked onto bonderized steel.

### Replaceable Air Filter Introduced by Badger

MILWAUKEE—Badger Corp. here recently announced its new dry, replaceable type of air filter for domestic and commercial use in forced warm air and air conditioning units.

Made of odorless, fire-resistant glass fiber, according to company officials, the filter is said to provide 25% greater filtering surface because of an exclusive rib design.

Special flange construction assures perfect air seal in the frame, and fixed media will not slide, pack, swell, or settle, according to the manufacturer.

Although lighter in weight than other replaceable filters, long life is claimed to be assured by great rigidity and sturdiness of cardboard frame cemented to the rib structure.

### New Ironer's Dimensions Announced by Bendix

SOUTH BEND, Ind. — Bendix Home Appliances, Inc., has announced dimensions of its new ironer in both the open and closed positions.

In the closed position, the electric ironer is 18 1/4 inches wide, 36 1/2 inches high, and 34 1/2 inches long.

Opened, with its top pushed back to form a convenient shelf 34 1/2 inches long and 12 1/4 inches wide, the

### Bendix Designs Dryer



To be available next summer, this Bendix dryer (electric or gas) will accommodate 18 pounds of clothes.

Bendix ironer extends to the following dimensions: Width, 44 1/2 inches; height, 42 1/2 inches; length, 64 1/2 inches.

The larger dimensions of the ironer when open are due entirely to the wing shelves and door shelves which may be opened to provide the operator places for completed articles without moving from her chair, according to A. R. Constantine, vice president and director of engineering.

A wing shelf at either end extends 15 inches. Its width also is 15 inches. Each of the door shelves, located in front of the machine at either side of the operator, is 12 inches long. Their width is 10 1/4 inches.

W. F. Linville, general sales man-

ager, said he expected the automatic ironer would be on the market next summer. It incorporates features of the rotary, over-the-roll, and under-the-roll type ironers, it is claimed.

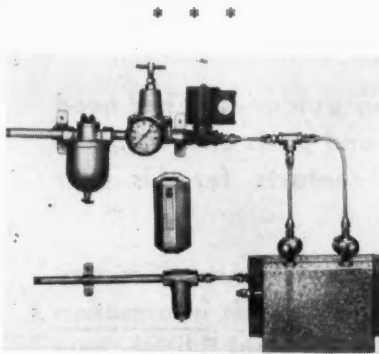
### Industrial Humidifier Unit Announced

CHICAGO—A new industrial humidifying unit, produced by Spraying Systems Co. here, is equipped with syphon type humidifying nozzles which utilize compressed air mixed externally, the company claims.

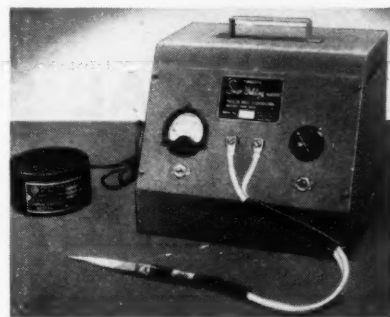
Made in two or four nozzle units with humidistat control, the nozzles can be set at various angles, states the company, to increase efficiency of moisture distribution.

"A finely atomized humidifying spray is produced at an unusually low cost," it is claimed. The unit is delivered ready for installation.

Detailed information of this unit and other spray nozzles for industrial applications is contained in the company's catalog No. 22.



### Spot Welder Intended For Small Parts



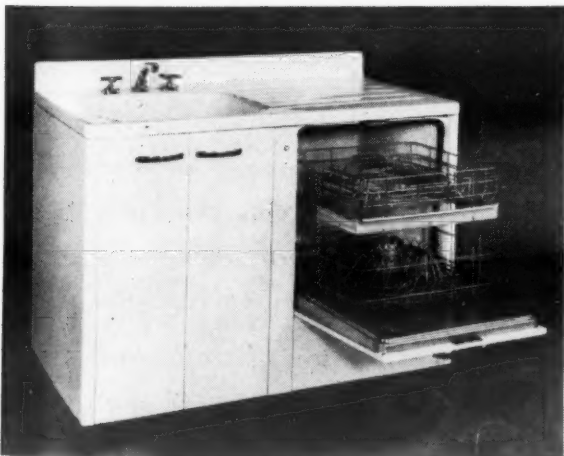
NEWARK, N. J.—Equipped with low voltage, plastic covered tweezers, and an auxiliary booster that is claimed to increase the capacity of the equipment by 300%, the new Besco Tweezer spot welding machine is capable of welding parts from .015 in. through 1/8 in. round, according to the Tweezer-Weld Corp. here.

Weighing approximately 25 lbs., the machine is the size of a small radio, and has, in addition to the tweezer attachment, a foot switch, giving the operator the use of both hands in the welding process. It plugs into 115 volt, 60 cycle power supply, and may be adapted to 220 volts, the company claims.

The 18 in. tweezers may be held in the hands with absolute safety, it is claimed, because the voltage used is low, and the current flows through at about 1/4000 of a second. They will not heat up, even after continuous usage, because of their forged copper construction, says the company.

The Tweezer Spot Welding Machine is priced at \$155.

### Hotpoint Shows Front-Opening Dishwasher



Hotpoint's new automatic dishwasher, shown here in combination with a cabinet sink, is a front-opening model. Handling complete service for eight persons, the unit requires 20 minutes for washing, 20 minutes for drying, and 20 minutes more for the dishes to cool off.



### Pipe and Tube Bending — Welding — Fabrication

Many foremost manufacturers, having discovered our specialized skill in our particular line, have entrusted us with a great variety of precision pipe and tube work, including bending, coiling, expanding, flattening, brazing and welding. Swan engineers and technicians, dealing continually with piping, can advise on your bending requirements and offer valuable suggestions on design and economical methods of installation. We invite your inquiries.

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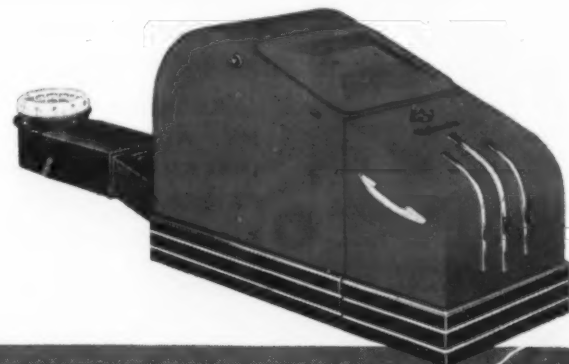
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It's hard to know who's who in the industry today. There are so many new people--little people and big people--in manufacturing, assembling, selling, and servicing. Distributors and dealers are expanding for prosperity sales. Ex-servicemen and employees with capital are starting out on their own. And old established companies, big substantial companies, are entering our industry, new to refrigeration and air conditioning -- eager for the opportunities it offers. They need INFORMATION, lots of it.

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The Refrigeration and Air Conditioning Directory will go a long way toward furnishing this information for buyers. With the Second International Edition now in preparation, we are going all out to get and sort and edit and arrange buying information for all refrigeration and air conditioning products.

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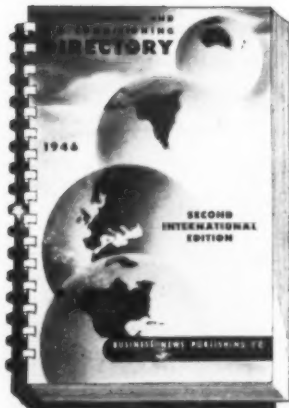
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## 'The Dealer's Future Is Bright, But No Cakewalk'--One of Them Tells Why

In a Boom Town, R. L. Cary Discusses His Rising Costs, Scale of Charges, and the Volume He'll Need

**Editor's Note:** For the man new to the business, or for the man who has been a dealer for 20 years, this account of a hard-headed viewpoint of the immediate future holds much of interest and value. Of particular interest is the information on compensation of salesmen and service men, service charges to customers, and an analysis of what the business must gross to return a satisfactory net profit.

By Donald F. Daly

RICHMOND, Calif.—After holding the Frigidaire commercial refrigeration sales and service franchise in this area for 14 years, Cary Appliance Sales & Service here has entered the appliance sales and service field. And while R. L. Cary, operator of the business, doesn't expect it to be any "cakewalk," he believes that by adhering to sound practices and charging proper prices, he will show a reasonable profit at the end of the year. He doesn't expect to make a fortune.

One of the first problems that Mr. Cary has encountered is that of allocating the appliances he has been able to get. Generally, he has been distributing the few units he has received on a first come, first served basis. However, any order for a refrigerator or washer which is ac-

companied by a \$25 deposit will insure the customer a preferred place on the list. Deposits required to hold smaller appliances are proportionately smaller.

On the items that Mr. Cary has had to sell, he has found buyers exhibiting considerable caution. Recently he had a consignment of 30 small radios, which sold well enough, although there wasn't exactly a "rush" of buyers.

"The customers wanted to know about the companies who made them, whether they were guaranteed, and if they could be assured of getting service on them," said Mr. Cary. "Some of them wanted to try them out first, too."

At present, Mr. Cary employs one salesman, who is guaranteed \$250 a month, and who gets a 10% commis-

sion on all sales over a \$2,500 a month volume.

The Richmond dealer does not plan to go "overboard" on trade-ins. He will allow a fair and reasonable price on any merchandise which can be overhauled and re-sold, but on worn-out and outmoded units he plans to offer a flat trade-in price of \$5 for refrigerators, and \$3.50 for washers. He figures that they will junk for about that much.

Mr. Cary has talked with other dealers in the locality and finds they are much of the same mind on the subject of trade-ins. If they hold to their expressed feelings on the subject, Mr. Cary feels that trade-ins will not present too great a problem.

Cary Appliance uses a diversified advertising program. Both classified and display advertising is used in local newspapers, and the firm sponsors a 15-minute radio program twice weekly which is devoted to the doings of returning veterans and their problems.

The well-equipped service department employs four refrigeration service men and one radio repairman. The employees in the service department are paid \$1.75 an hour, a top rate for this area.

The rate on service calls is \$3.50 an hour, with a minimum of \$3.50 for all field calls. For shop calls, where the customer brings in a small

(Concluded on next page)

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## Mr. Cary and His Organization



In front of the showroom of the Richmond, Calif., dealership whose operations are described in the accompanying story are John Caskey, washer service man, "Sparky" Parker, refrigeration service man, Joe Simmons and Allen Perry, radio repairmen, Jack Martin, salesman, and R. L. Cary, proprietor.

### Dealer Sees Need To Double Best Previous Gross In Order To Realize Desired Annual Profit

(Concluded from preceding page)  
appliance, the minimum charge is \$1 and the \$3.50 hourly rate prevails.

Every job is guaranteed. A complete record is kept of every service call, and a card file provides the case history of thousands of customers in terms of the work done for them. Mr. Cary periodically goes through these files and sends out reminders to customers on "check ups" that should be made.

While Mr. Cary has plenty of faith in the future of the business, he feels that there are some definite factors which will tend to reduce the profit factor.

For example, in 1942 his rent was \$40 a month. At present, he has a five-year lease on the same store at \$125 per month, with the tenant standing all costs of remodeling and repair. He has just completed remodeling at a cost of \$3,000.

In 1942 the gross profit for his business was about 40%, while under present conditions they are running

about 30%. He estimates that his overhead is 110% higher than it was in 1942.

His present overhead expense is about \$1,200 per month, the current inventory in merchandise including parts is more than \$10,000, and when possible he plans to invest about \$5,000 in four new trucks.

In order to meet his expenses and make a fair return on his investment, Mr. Cary estimates that he will have to do a gross business of \$8,000 a month. Although he has never before grossed much more than half of this amount, he feels that it is possible for the next couple of years.

Richmond is something of a war boom town, having grown from a prewar population of 40,000 to 130,000 during the war. Mr. Cary expects this to level off to about 80,000. Since most of this new population was drawn from other states, he feels that much new equipment can be sold to these people once they decide to make Richmond their permanent home.

### Moffat and Carter Join Buford's Organization

FRESNO, Calif.—New executives added to Buford's Appliance Store here are Jack S. Moffat, partner, and R. F. Nick Carter, in charge of appliance installations and heating and cooling sales.

Buford's, largest retail appliance dealership between Los Angeles and San Francisco, has been in business for 28 years under management of T. J. Buford, veteran commercial refrigeration and air conditioning engineer. Before joining the firm Mr. Moffat was district manager for the War Production Board, while Mr. Carter was Fresno City plumbing inspector for 10 years.

The firm is going into large scale air conditioning and commercial refrigeration sales, as well as retailing major appliances and installing automatic heat. The company did \$100,000 volume a year in heating sales during the war, and has added this service as a permanent feature.

### New Buffalo Service Firm

BUFFALO—A business name has been filed here for the C. & P. Refrigeration Service, 336 15th St., by Vincent F. Cooper and Orlando Plesh.

## U. S. To Again Buy Foreign Copper

WASHINGTON, D. C.—Reconstruction Finance Corp. announced Jan. 29 that the Office of Metals Reserve is reestablishing a foreign public copper purchase program which was discontinued in October, 1945.

The action is being taken at the request of the Office of War Mobilization and Reconversion upon the recommendation of the Civilian Production Administration.

The Office of Metals Reserve plans to purchase copper of foreign source during the first six months of 1946 at the rate of 20,000 tons a month. The total quantity, 120,000 tons, is in addition to any commitment presently outstanding.

## Salem Engineering Co. Appoints 7 Agencies

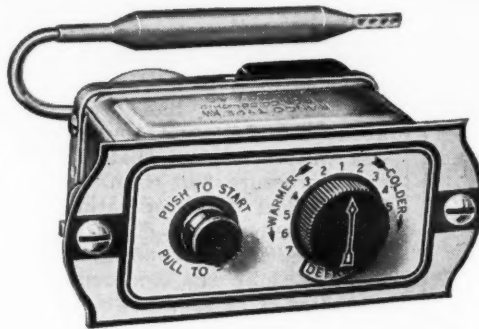
SALEM, Ohio—Salem Engineering Co. here, manufacturer of "automatic" locker plants, has recently appointed seven new agencies as distributors, who will give consulting service as well as sales service, it was announced.

Distributor for Colorado, Wyoming, Utah, and western Nebraska is the Sterns-Rogers Mfg. Co., Denver, Colo.; New England, the D'Elia Electric Co., Inc., Bridgeport, Conn.; Virginia and the Carolinas, Colonial Frozen Foods, New York City; Michigan, James & Roach Co., Detroit; Oklahoma, Arkansas, and Louisiana, Carroll's Locker Supply Co., Chickasha, Okla.; Texas and New Mexico, T. E. Nicklas, Weslaco, Tex.; and California, Ken Engel, San Francisco.

## Lease To Service Firm Solves Dealer's Problem

CHEYENNE, Wyo.—By leasing out part of its floor space to a radio repairman, the Reenan Appliance Store has solved some of the help-shortage and overhead problems of operating an appliance store in today's conditions.

Charles F. Clark, veteran radio repairman who formerly operated the Clark Radio & Electronic Service, has sold out his former store, and will henceforth occupy space in the rear of the Reenan store. This will bring in many additional new customers, the appliance firm believes, as well as giving the Reenan concern more complete service to its customers. The Reenan management will eliminate radio sales and turn all these over to Mr. Clark.



### Where Accurate Temperatures Are Vital—Use Ranco Controls

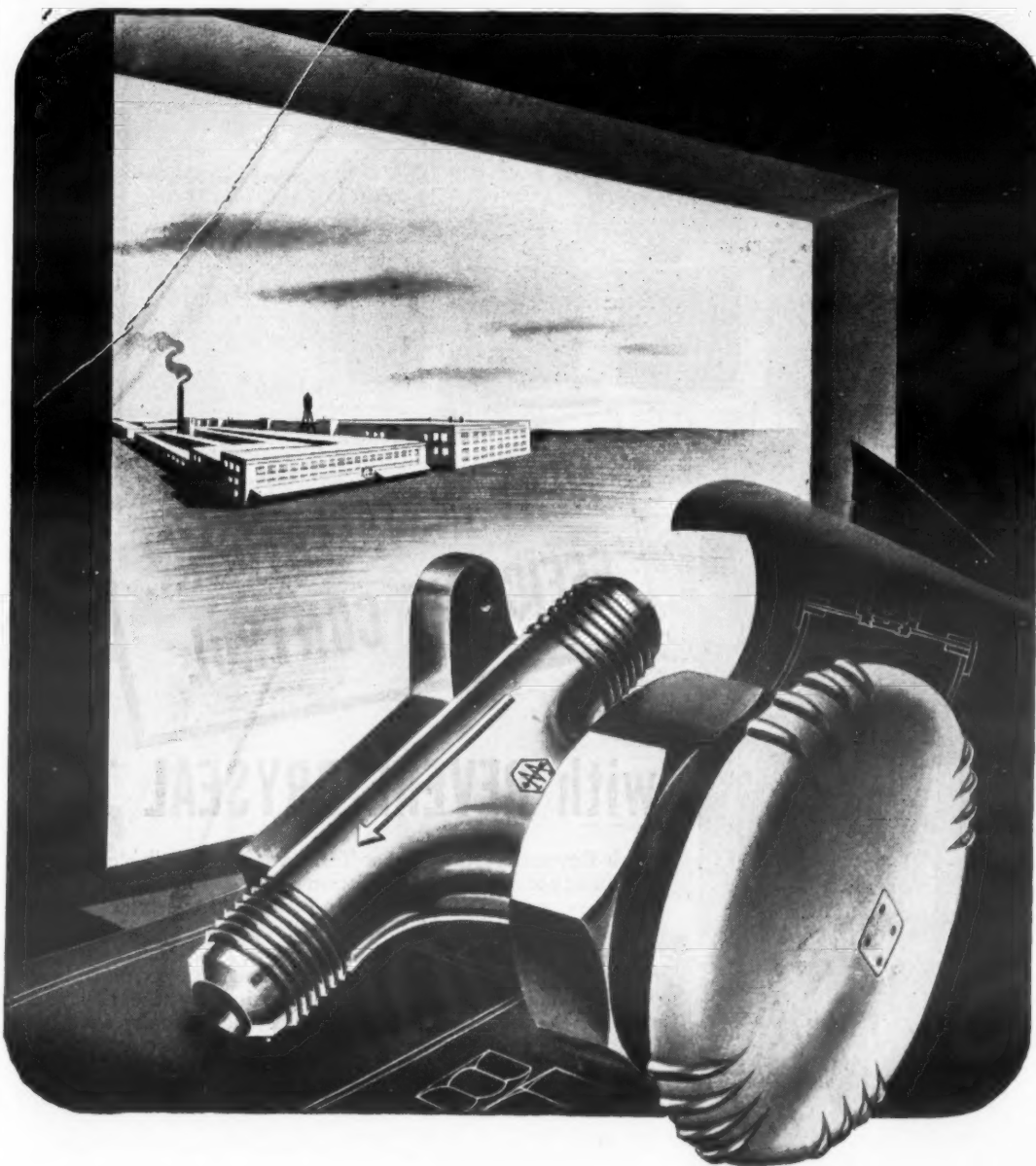
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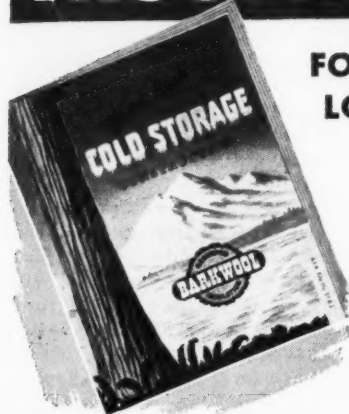
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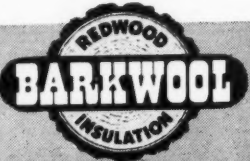


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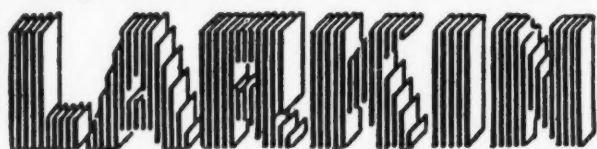
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## Refrigeration Problems And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

## Automatic Expansion Valves (Part 2)

### EXAMPLE OF OPERATION

For example of refrigerant control by an automatic expansion valve, let us take an evaporator fed by an automatic expansion valve set for 5 p.s.i., the refrigerant being methyl chloride. This pressure 5 p.s.i., corresponds to a temperature of 2° F. The compressor has been off for about an hour and the evaporator has warmed up so that the evaporator pressure has risen to 14 p.s.i. The bulb of the temperature control is attached to the evaporator near the outlet of the evaporator coil, and is set to stop the compressor at 4° and start it at 20°.

### AT START OF RUNNING CYCLE

The temperature control closes, the compressor starts, the evaporator pressure is rapidly reduced from 14 p.s.i. and within a minute is down to 5 p.s.i. At this point the expansion valve starts to open and feed liquid refrigerant into the evaporator. But during the off period the evaporator has become warm, much warmer than the 2° which corresponds to 5 p.s.i.

So, as soon as the liquid refrigerant hits the warm evaporator it rapidly boils (vaporizes) cooling itself and the first part of the evaporator down to about 2°. Since the evaporator is so warm it doesn't take very much liquid refrigerant to raise the pressure to 5 p.s.i. and shut off the valve.

Putting it more accurately, the valve needle is held very slightly off its seat and lets very little liquid refrigerant into the evaporator, for but little is needed to raise the pressure in the evaporator to 5 p.s.i., at which the expansion valve is set.

So at first, very little liquid enters the evaporator and only the first part of evaporator really gets very cold, that is to 2°, perhaps as little as one-half the evaporator is "active," although the entire evaporator may be frosted. In this active part there is still liquid refrigerant being boiled at 5 p.s.i. and at 2°.

As soon as the liquid is all boiled away the rest of the warm evaporator gradually warms the vapor, (superheats it), so that by the time it gets to the outlet of the evaporator coil it may be up to 18° or 20°.

### EVAPORATOR ACTIVITY INCREASES

But refrigeration is going on; heat is being absorbed from the evaporator, and gradually it gets colder and colder. As it does so it takes more and more liquid refrigerant into the evaporator to keep the pressure up to 5 p.s.i. for the active portion of the evaporator gets bigger and bigger, extends more and more toward the outlet end of the evaporator and the superheating becomes less and less.

### TOWARD END OF THE RUN THE EVAPORATOR ALMOST ALL ACTIVE

Finally almost the entire evaporator is active. The refrigerant is being superheated only about 5° or less by the time it reaches the outlet of the evaporator. As soon as the point on the evaporator to which the bulb of the temperature control is attached, gets down to 4°, the temperature control opens and stops the compressor.

### RESET TEMPERATURE CONTROL COLDER

Suppose that the temperature control were reset to cut off at -5° F.

The compressor would continue to operate at 5 p.s.i. evaporator pressure and the evaporator would get colder until finally it got down to 2°. The expansion valve would have to open a little wider so as to pass a little more liquid in order to keep the pressure up to 5 p.s.i. The frost line would keep creeping onward and would eventually get out on the suction line.

### MUST ALSO RESET EXPANSION VALVE LOWER

But below 2° the evaporator temperature would not go, no matter how long the compressor ran, for the expansion valve is set to maintain 5 p.s.i. and not less. Five p.s.i., methyl chloride corresponds to 2°, so to go below 2° the expansion valve would have to be reset to a lower pressure. To get to 5° below zero the expansion valve would have to be set to maintain not more than 2 p.s.i., which corresponds to -5° F.

So if we reset the valve from 5 p.s.i. to 2 p.s.i. and reset the temperature control to cut out at -5° instead of 4° we could get the evaporator temperature down to -5°. At the same time, a lower pressure setting would mean that the valve would not need to pass as much liquid refrigerant into the evaporator to keep the pressure up so less refrigerant would be evaporating in the evaporator, less of the evaporator would be active and the frost line would go back off the suction line.

By the time the -5° temperature is reached the entire evaporator would again be fully active and fully frosted.

### RESET EXPANSION VALVE ONLY

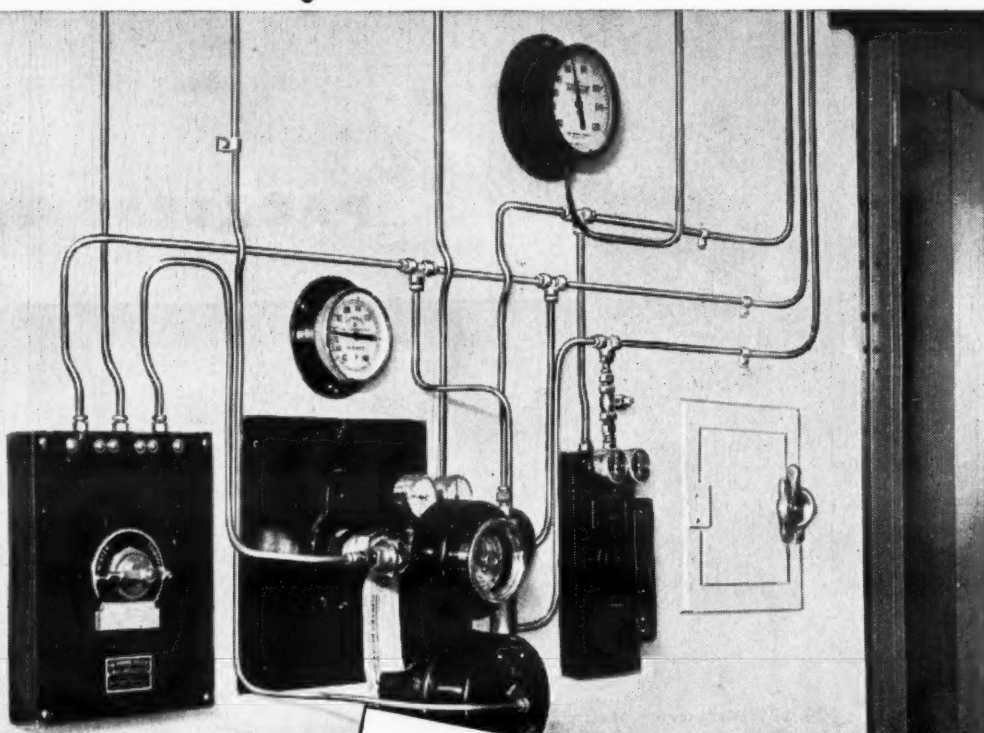
Suppose that, instead of resetting the temperature control down from 4° to -5° cut-off and then having to reset the expansion valve in order to get down to -5°, we had left the temperature control set at 4° cut-off but had reset the expansion valve to 2 p.s.i.

The expansion valve would have needed to pass less refrigerant to maintain 2 p.s.i. than 5 p.s.i., so less of the evaporator would be fully active, say only three fourths of it, with one-fourth of it inactive. The vapor would be superheated perhaps 15 or 20° on leaving the evaporator.

### INCREASED RUNNING TIME

The compressor would continue to run, but at somewhat reduced capacity, for a compressor's capacity goes up as the suction pressure rises, and down as the suction pressure

(Concluded on next page)



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Also available for similar services is Revere Sealed End Copper Tube, which has each end plugged and taped for protection against injury and contamination. Revere Dryseal and Sealed End Copper Tube are sold by Revere Distributors in all parts of the country. The Revere Technical Advisory Service is always ready to help with your problems.

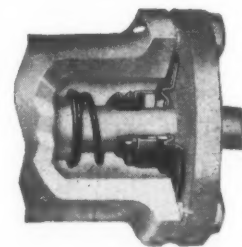
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## Automatic Valves

(Concluded from preceding page)  
falls. So it would have to run longer in order to give the same amount of refrigeration.

### EVAPORATOR PARTIALLY INACTIVE A GREATER PART OF THE RUNNING TIME

As the compressor continued to run the expansion valve would have opened a little wider, letting a little more refrigerant through in order to keep the evaporator pressure up to 2 p.s.i. With the evaporator getting colder, the frost line would continue to creep farther and farther along the evaporator coil until finally the point at which the temperature control bulb was fastened reached 4°, and the compressor would stop.

By this time the entire evaporator would be fully active, but it took more running time of the compressor to get it that way, for the low setting of the expansion valve caused the evaporator to operate for a longer time only partly active, and forced the compressor to operate at a lower suction pressure, therefore, at reduced capacity, and as a result it has to run longer to get the temperature control to cut off at the same temperature setting as when the expansion valve was set at 5 p.s.i.

### AUTOMATIC EXPANSION VALVE SETTING AFFECTS TEMPERATURE CONTROL SETTING

From the above we see that an automatic expansion valve and the temperature control must work closely together, and that the correct setting of an automatic expansion valve is that at which the temperature becomes entirely frosted in the least time, and yet the frost line does not run out on the suction line much beyond the evaporator, at least not outside the cabinet, by the time the temperature control stops the compressor.

### LONG CYCLES UNDESIRABLE

Also, it will be observed that, with an automatic expansion valve, the evaporator should not be allowed to warm up very much. So the off-period should be comparatively short, which will, of course, make the running period correspondingly short. This should not be interpreted to recommend extreme short cycling. The length of the cycle depends upon the type of equipment, and the application, but ordinarily a minimum cycle, both off and on, should be at least 10 minutes.

Since wide variations in load or in temperature may result in an evaporator fed by an automatic expansion valve being only partly

active for a large portion of the running time, with a corresponding low average suction pressure (which reduces compressor capacity and efficiency and increases running time and cost of operation) the automatic expansion valve is not suitable for use on applications on which there are wide variations of load and/or temperature.

## Kliever Will Coordinate M-H Research Activities

MINNEAPOLIS—Appointment of Dr. Waldo H. Kliever to the newly created post of director of research has been announced by W. J. McGoldrick, vice president in charge of engineering, Minneapolis-Honeywell Regulator Co.

The new director will coordinate research activities in all Honeywell divisions in Minneapolis, he said, and in addition will instigate new research projects in the field of automatic control devices ranging from aircraft and railroads to heating and air conditioning.

Dr. Kliever received his doctor's degree in physics from the University of Chicago in 1939. He was employed in laboratory research work with the Gaertner Scientific Corp., Chicago, from 1930 to 1938, where he developed a number of new testing and manufacturing techniques in the fields of optics, electronics, physics, and mechanics.

In October, 1938, Dr. Kliever resigned his position in Chicago to set up an engineering physics laboratory for the United States Cotton Ginning Laboratories at Leland, Miss. While with the government service he developed a number of instruments for studying the operation of cotton gins and presses. These included a stroboscope which for the first time permitted improvement of cotton gin saws by making possible observation of the blades under high speed operation.

Joining Minneapolis-Honeywell in June, 1940, Dr. Kliever was assigned to the engineering department and a year later was made chief physicist for the newly formed Aeronautical division. During the war Dr. Kliever devoted his full time to the development of a number of aeronautical control devices.

### Ernest Darwin Co. Is Organized In Charlotte

CHARLOTTE, N. C.—The Ernest Darwin Corp. has been organized here by E. J. Webb, G. H. Webb, and C. W. Champe to act as agent for national manufacturers of refrigeration equipment in the Carolinas.

## Cast Iron Flame-Cutting Possible by New Method

CHICAGO—The Technical Service Department of National Cylinder Gas Co., 205 W. Wacker Drive, Chicago, has just issued an illustrated circular completely covering the "how to" on the cutting of cast iron with the oxy-acetylene flame.

For many years cast iron cutting was considered almost impossible, but now with proper apparatus and technique the job can be done both successfully and economically, it is claimed.

Included is discussion of proper types of equipment, preheating conditions, cutting positions, need of adequate protective clothing, proper oxygen and acetylene pressures, etc.

## J. E. Orr Returns as Connor Adv. Manager

NEW YORK CITY—Lt. J. E. Orr has resumed his position as advertising manager of the W. B. Connor Engineering Corp., after a five-year absence in which he served with the armed forces, it was announced.

To distribute its line of Dorex air recovery equipment and Kno-Draft diffusers, the Connor organization has appointed the following firms: George W. Stetson, Boston; Hunter-Hoffman Co., Greensboro, N. C.; Dwight L. McNulty, Chattanooga, Tenn.; and Ashton Heating & Air Conditioning Co., Salt Lake City, Utah.

# STANGARD

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For Maximum Refrigerating Efficiency



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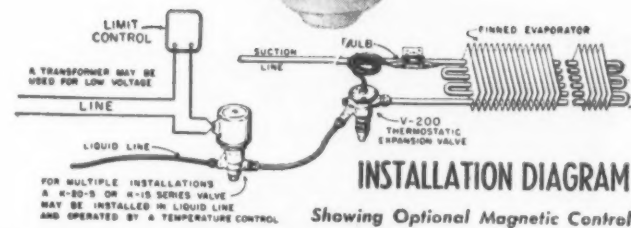
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195 VERONA AVE.

NEWARK 4, N. J.



## Carver Refrigeration Co. In Tampa Expands For 'Dehumidification Machine' Program

New Building Taken; Units Have Various Applications

TAMPA, Fla.—Carver Refrigeration Co. here has just announced the purchase of a two-story building on Grand Central Ave. at a cost of \$41,248 as part of its planned expansion program, according to Earl E. Carver, owner.

The new building with its 26,000 sq. ft. of floor space will give the company the room it has needed for its manufacturing, said Mr. Carver. At present the firm will occupy only the east half of the first floor and the entire second floor.

Plans to produce a new type of air circulating fan developed by the company on which a patent is pending, were announced by Mr. Carver. A dehumidification machine for removing moisture from the air in warehouses and factories also was developed by the company, he disclosed. Orders already are on hand for 2,200 of the dehumidification machines, which will sell for \$2,100, he added.

Although at present Carver personnel totals 17, including 11 veterans, Mr. Carver plans to employ 50 persons later on. Preference is given to disabled veterans, and of the 11 vets now on the payroll, seven

of them are handicapped. Training in refrigeration and air conditioning is given to veterans at a school operated by the company.

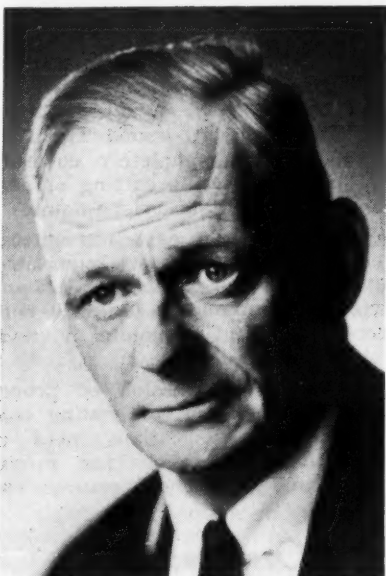
Contracts for refrigeration equipment at military bases in Florida occupied the facilities of the Carver Refrigeration Co. during the war years, and now reconversion for the manufacture of air conditioning equipment for civilian plants is under way, explained Mr. Carver.

Carver refrigeration and dehumidification equipment is used in various applications, such as peanut packing factories, warehouses for storing gladioli bulbs, paper mills, citrus packing plants, and in the curing of tobacco and hay.

### Zerozone-Houston Co. Plans New Building

HOUSTON, Tex.—Construction of a one-story fireproof building will start here soon as the new home for the Zerozone Houston Co., which handles commercial refrigeration equipment.

## Now With Airtemp



CLARENCE A. RUNDALL

## Rundall With Direct Airtemp Heating Sales

DAYTON, Ohio—Clarence A. Rundall has joined the sales department of Airtemp Division, Chrysler Corp., as assistant director of heating sales, it was announced here by W. B. Shirley, director of this activity.

Mr. Rundall is experienced in every phase of stoker sales and installation, through 19 years' association with this industry. First 12 years was with a stoker manufacturer in New York City, where he advanced from retail salesman to district manager. For five years he was special factory representative for a temperature-control device, serving stoker firms. For two years, he had charge of all stoker sales and sales promotional work for another manufacturer of automatic stokers.

## York Engineer Dies In Auto Accident

YORK, Pa.—Jacob G. Aldinger, for 41 years an engineer for York Corp., was killed Jan. 29 in an automobile crash here. His wife was also killed in the crash and a daughter seriously injured.

Mr. Aldinger was at the wheel of his car when the mishap occurred, the car veering off the Lincoln highway near York and crashing into a tree. Witnesses who saw the crash said the car picked up speed after leaving the highway, and it was surmised that Mr. Aldinger possibly suffered a heart attack or otherwise became ill and lost control of the car.

Mr. Aldinger was a design and development engineer for York, and few other engineers in the industry could likely match his record for longevity of service or covering such a period in the history of the refrigeration industry. He joined York in 1904 and served successively as mechanical draftsman, assistant chief draftsman, assistant mechanical engineer, and mechanical development engineer.

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R-12

## Langsenkamp, Parts & Supplies Wholesaler, Establishes Employees' Retirement Program

Profit Sharing Part of Plan of Indianapolis Concern

INDIANAPOLIS — F. H. Langsenkamp Co., wholesaler of refrigeration supplies, recently adopted an employees' retirement plan which is a combination pension trust plan providing fixed retirement benefits and profit sharing plan providing a retirement income based upon company profits, announced F. H. Langsenkamp, Jr., treasurer.

Effective date of the pension trust plan is July 1, 1945, and the anniversary date is July 1 of each year thereafter. The profit sharing plan is being made effective for the year 1945, with the first allocation of profits being made as of Dec. 31, 1945, and each December thereafter.

In a booklet for employees, it is explained that, "The plan is so arranged that an income is provided at the time Social Security benefits are paid, beginning at the age of 65."

There is also a provision in the plan through which a beneficiary, to be named by the employee, will receive a specific amount if the employee dies before retirement age, or within 10 years thereafter.

Eligibility requirements for the plan are as follows: If the applicant was employed at F. H. Langsenkamp on July 1, 1945, and had completed three full years of service and was not more than 59 years and six months of age, he is automatically eligible for membership in the plan

on that date and subsequently meets eligibility requirements, he may participate in the plan on the next anniversary after completing the requirements, provided he has not attained the insurance age of 57 on such anniversary date.

Cost of the pensions will be paid by equal contributions made by the employer and employee, except in no case may the contribution of the employee exceed 5% of his annual earnings, the plan states.

It is believed by Mr. Langsenkamp that his is the first small company in its field to have instituted such a plan.

### Korfund Co. Exclusive 'Vibrocork' Distributor

LONG ISLAND CITY, N. Y.—Korfund Co., Inc., manufacturer of vibration control units, has been appointed sole distributor of Armstrong standard density Vibrocork, it was announced recently.

Inquiries will be handled through the company's home office and 35 district representatives throughout the country.

Vibrocork, to be furnished by Korfund in 2 to 4 in. thicknesses, is a product by the Armstrong Cork Co. for vibration isolation.



Actual THERMOBANK Installation in Locker Storage Plant of 500 Locker Capacity. The contracting firm was the Refrigeration Corporation of America, 241 W. 64th Street, New York, N. Y.



WITH the THERMOBANK a zero degree system is just as automatic as a 40 degree system—in fact more so.

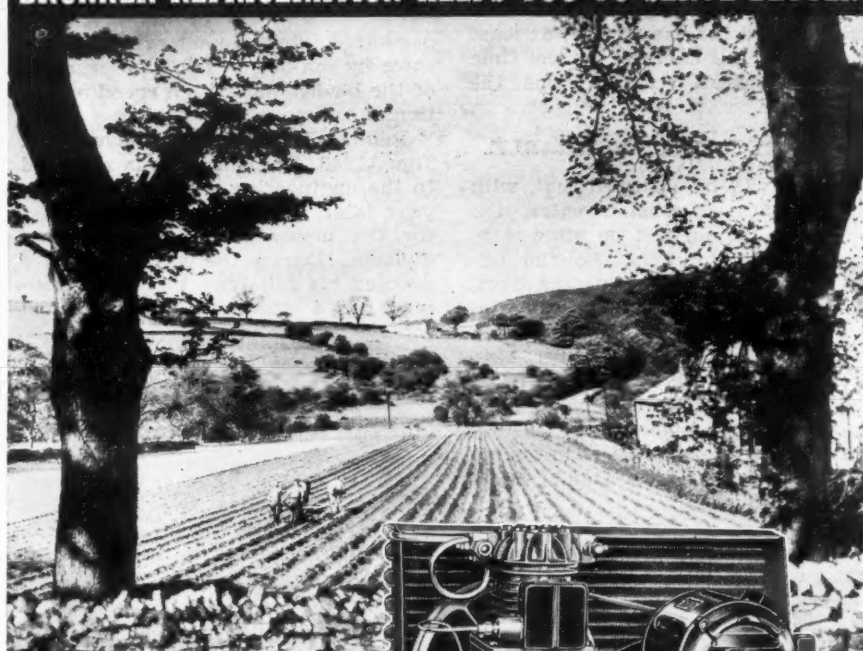
It never needs to be defrosted because it defrosts itself automatically without the use of brine sprays, water sprays or electric heaters.

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Production of all perishable foods in the United States currently tops seventeen billion dollars...the preservation and distribution of which places a heavy responsibility on refrigeration.

Brunner dependable condensing units are guarding much of this perishable food by supplying refrigeration to the many types of equipment required in food handling between the points of production to appearance on the consumer's table.

Having specialized in the design, production and application of refrigeration condensing units for many years, Brunner units have definitely established a reputation for reliability, long service life and economy in both operation and maintenance.

Whether your requirements call for 1/4 hp. or 25 hp. units, air-cooled or water-cooled, there is a Brunner Condensing Unit designed to meet them. They are described and illustrated in the Brunner Refrigerating Equipment Catalog. Write for a copy.

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# 'Racketeer' Residential Contractors Hit By New Michigan Law Requiring Licenses

## Air Conditioning Contractors May Be Affected

By C. Dale Mericle

DETROIT — Installers of some types of residential air conditioning equipment here can be forced to pay a \$500 fine or spend six months in jail if found guilty of violating provisions of a new Michigan law, members of the Detroit Chapter, Indoor Climate Institute, were told recently by Harold G. Groehn, chief deputy commissioner of the Michigan Corp. & Securities Commission, which administers the act.

The new law, "Residential Builders' and Residential Maintenance and Alteration Contractors' License Law," provides for licensing of all residential contractors, as its name implies.

Its intent, however, is to curb "racketeer" operators in the building field, particularly the "gyp" contractors who have been selling imitation brick and other types of residential "siding," explained Mr. Groehn.

### EFFECTS OF LAW

The ultimate effect of the law should be to generally improve the level of all operators since their applications for licenses and renewals of licenses will be subject to review, Mr. Groehn believes.

Limited to counties in Michigan having a population of more than 250,000, the law currently applies to Wayne (which includes Detroit) and Oakland counties. Other counties may, by a three-fifths vote of their board of supervisors, elect to come under the law.

License fee for a general residential builder is \$25, renewable every three years. Maintenance and alteration contractors pay \$15 every three years. The state returns the \$5 builders' fee to those cities which maintain building inspection departments.

### CERTAIN EXEMPTIONS

In addition to exempting contracts for residential repair, alteration, or maintenance which amount to less than \$200, the law also exempts "the sale of any products or materials; or the sale or installation of articles of merchandise which are not actually fabricated into and do not become a permanent fixed part of structure."

To qualify for a license contractors can be required by the state commission to pass a written examination, although the commission is permitted by law, and, according to Mr. Groehn, intends to grant licenses if applicants can show satisfactory proof that they have been engaged in the business for five years.

A thorough investigation is made of each applicant's past record, however, before the license is granted, Mr. Groehn warned. This investigation includes a study of the applicant's credit rating, he said.

"No applicant shall be refused a license without an opportunity for a hearing before the commission," the law states, and further provides that:

### POSSIBLE SENTENCES

"After a hearing of record before the commission a residential builder and/or maintenance and alteration contractor is found guilty of violating any provision of this act and/or the rules and regulations adopted pursuant thereto, the commission shall have the authority to require at its discretion written examination or written re-examination of such resi-

dential builder and/or residential maintenance and alteration contractor.

"If application for a license is made by any person whose license has been denied, suspended, or revoked as a result of disciplinary action for violation of any provisions of this act or of the rules and regulations adopted pursuant thereto, the commission may require as a condition precedent to the issuance of a license to such applicant or the removal of suspension, that such applicant file or have on file with the commission a bond issued by an admitted surety insurer or cash in a sum to be fixed by the commission based upon the magnitude of the operations of the applicant not to exceed the sum of \$1,000."

Every person "injured" by unlawful acts of the contractor who has posted such a bond may bring suit against the bond or deposit for the extent of the damage, employees having first claim for unpaid wages, the law states.

Complaints regarding alleged violations of the law may be made in writing to the commission by any person, but those complaints charging faulty construction must be filed by municipal building inspectors, explained Mr. Groehn.

### USUAL PROCEDURE

Usually, said Mr. Groehn, when a copy of a complaint is sent to the contractor involved, the contractor and the complainant work things out between themselves.

In some instances it is necessary for the commission to conduct a hearing to iron out such problems. It is comparatively rare that the commission must turn over a case to the county prosecutor because the contractor refused to straighten out the problem, according to Mr. Groehn.

The commission can revoke or suspend licenses if the contractor is found guilty of performing any of the 10 following acts:

"(a) Abandonment without legal excuse of any construction project or operation engaged in or undertaken by the licensee;

"(b) Diversion of funds or property received for prosecution or completion of a specific construction project or operation, or for a specified purpose in the prosecution or completion of any construction project or operation, and their application or use for any other construction project or operation, obligation or purpose;

"(c) Failure to account for or to remit for any moneys coming into his possession which belongs to others;

### DEPARTURE FROM PLANS

"(d) Wilful departure from or disregard of, plans or specifications in any material respect, and prejudicial to another without consent of the person entitled to have the particular construction project or operation completed in accordance with such plans and specifications;

"(e) Wilful or deliberate disregard and violation of the building laws of the state, or of any political subdivision thereof, or of the safety laws or labor laws of compensation insurance laws of the state;

"(f) Misrepresentation of a material fact by an applicant in obtaining a license;

"(g) Making any substantial misrepresentation, or making any false promises of a character likely to

influence, persuade, or induce;

"(h) Advertising in any manner whatsoever that said residential building and/or residential maintenance and alteration contractor is licensed under this act;

"(i) Changing business location without notification to the commission within 30 days from the date of change;

"(j) Any conduct whether of the same or of a different character than hereinbefore specified, which constitutes dishonesty or unfair dealings."

The Michigan Supreme Court may, at the request of the contractor whose license has been suspended or revoked, review the findings made by the commission, the law states.

### MAY AID IN SUITS

Another interesting aspect of the new law, as pointed out by Mr. Groehn, is the following provision:

"No person engaged in the business or acting in the capacity of a residential builder and/or residential maintenance and alteration contractor, may bring or maintain any action in any court of this state for the collection of compensation for the performance of any act or contract for which a license is required by this act, without alleging and proving that he was duly licensed under this act at all times during the performance of such act or contract."

Freon Condensers • Dry-Ex Water Coolers  
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30 horsepower Century Motor driving a refrigeration compressor in a packing plant.

## For Smooth, Quiet Power, Dependable Operation, Long Life

Century refrigeration compressor motors have the necessary high starting torque to start heavy loads with a low starting current. They come up to full speed quickly, yet smoothly and quietly. The correct Century motor installed on a refrigeration compressor assures maximum results.

Century motors are built with rugged frames and accurately machined feet for solid mounting. They are well balanced mechanically and electrically. Unique bearing

bumpers cushion the shock of shaft shoulders. All of these features—and many more contribute to the smooth, quiet, dependable operation of Century motors.

For refrigeration compressors, pumps, fans, blowers, or any similar application ask about the advantages Century has to offer. The wide range of types and sizes from 1/20 to 600 horsepower means there is a Century motor for nearly every application.



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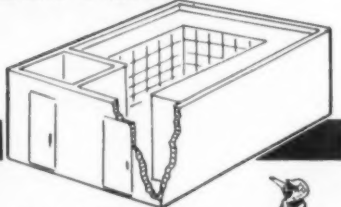
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Alert dealers, who are already handling air conditioning and refrigeration, find that frozen food lockers make a perfect year around tie-in with their present business setup.

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- COMPLETE IN ONE UNIT



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MEMPHIS 9, TENNESSEE

## 'Replacing Age With Refrigeration' Enables Winery To Get Top Prices

System Produces 'Finished Wine' With Fast Stabilizing

FRESNO, Calif.—Baker Ice Machine and Cyclops refrigeration equipment recently installed in the Fresno Winery here has enabled the company to ship one million gallons of wine to market many months ahead of the normal delivery date.

The Fresno Winery, which ships bulk sweet wines of all varieties through the North Pacific Coast area, is pioneering the way in "replacing age with refrigeration" efficiently. Where many wineries are still sticking to the traditional two-to-three years aging period required before wine hits a "stabilized" condition, this progressive plant has turned to precisely controlled refrigeration instead.

"We are using our two new refrigerating installations to speed up the time required to convert 'new' wine into 'finished' wine," Dale Mills, bacteriologist and manager of the winery, explained. "Normally, finished wines are those which have been aged, stabilized, clarified, and otherwise handled until they reach a point where they will remain sparkling and brilliant under any kind of shipping or display condition."

"Formerly, it required anywhere from 20 months to three years before certain wines achieve this ideal situation—it requiring that long to precipitate out the colloids and tartrates which prevent stabilization.

However, we have discovered that cold, properly applied, will reduce this period to an absolute minimum."

At the Fresno Winery all "new wine" as it comes from fermentation processes is first clarified by reagents which remove all suspended solids, then blended to standards for whatever type is desired. The winery blends in this way to "balance the inventory" with enough of popular varieties such as port, muscatel, angelica, etc., to correspond with the season's market. Prices are based entirely on grape prices, which at present have reached an all time high.

All elements must be closely watched to maintain the same quality year after year, and it has been found that refrigeration doesn't change taste or body in any way.

The wine, after processing, is refrigerated from one tank to another by passing it through either a 50-ton Baker Ice Machine cooler coil, or a 40-ton Cyclops unit operating as a standby. Insulating piping has been installed in the winery whereby new wine drawn from the filters passes over 20-foot refrigerating coils, and is then returned to storage vats, which in cool, dark cellars, retains the temperature set indefinitely.

The refrigeration period is varied for various wines, in each case bringing the "hot wine" down to a pre-

determined temperature just above its freezing point. There is no refrigeration required in the tanks storage, inasmuch as 3-inch cooperage walls have proven adequate insulation.

One chilling normally precipitates out tartrates and other elements. Tartrates are removed from the wine as cream of tartar by filtering through 36-plate high pressure filters. Wines which require longer to achieve the stabilization point are re-refrigerated from one to three times, taking samples at each trip through the cooling plant, until the proper point is reached. After returning to the storage cellars, all wines are checked on an hourly schedule. As soon as ready to stand shipment, they are pumped into tank cars for the market to make badly needed space for still more "batches."

Ultimately Fresno Winery will install holding rooms to maintain the temperature of all wines which still require tank aging at a precise point, according to the management. A few refrigerated railroad cars, utilizing 10,000 gallon tanks installed in standard refrigerator cars, have been used successfully in recent years for "aging in transit."

By far the greatest advantage realized through the two new refrigeration units is the fact that Fresno Winery was able to ship its huge volume of "finished wine" before the end of January at current market prices—whereas normal tank aging would mean that this 1,000,000 gallons would have to be sold at whatever gallon price applies at the end of the stabilization period. Much potential loss between high grape prices and ultimate wine selling prices was thus eliminated in advance by refrigeration.

## To Capital For Frigidaire



W. V. HEATH

## Washington Office of Frigidaire To Heath

DAYTON, Ohio—Appointment of W. V. Heath, former member of the Consumers Durable Goods Division, WPB, to the Frigidaire government contacts office in Washington, D. C., has been announced by H. F. Lehman, assistant general sales manager for Frigidaire.

Mr. Heath, who accumulated 20 years of experience in the electrical appliance business prior to joining the WPB staff, was engaged as applicant advisor on government regulations and staff representative on the Division Requirements Committee from December, 1942 to January of 1945. He served as specialist on domestic mechanical and ice refrigeration and small electrical appliances from January of this year until his appointment with Frigidaire.

## 3 Engineers Returning To Herman Nelson Corp.

MOLINE, Ill.—Lt. Coleman Kane, Midshipman Russell Taylor, and Capt. James Hodges have returned to the Herman Nelson Corp. as product application engineers, according to Charles S. Stock, general sales manager. The veterans will be affiliated with the New York City, Chicago, and Moline offices of the organization, respectively.

Before his enlistment in the Navy in April, 1942, Mr. Kane was connected with the Syracuse office of Herman Nelson Corp. Mr. Hodges will specialize in self-powered product application.

## Habegger Will Direct Bryant Heater Promotion

CLEVELAND—O. Fred Habegger has been appointed manager of advertising and sales promotion at the Bryant Heater Co. here.

Formerly Mr. Habegger was employed in the sales departments of Standard Register, Dayton, Ohio, and the Equitable Gas Co. in Pittsburgh. He is a graduate of the University of Pittsburgh where he did graduate work in heating and air conditioning.



Above map does not attempt to show all products available in the various states

For more than 75 years, Union Pacific has served thirteen western states . . . been a partner in their development.

This vast fertile territory is more than the bread-basket of the nation. Due to its great wealth of industrial raw materials—ore, minerals, petroleum and lumber—it might also be called the nation's treasure-chest. Rivers have been harnessed—providing irrigation and power. And there is splendid rail transportation.

For example, in Wyoming, Montana, Utah and other metal-mining states, there is a large source of supply for builders of refrigerating and air-conditioning units. Union Pacific has the equipment

and personnel to meet all the requirements of shippers in those regions.

These thirteen western states served by the railroad are ripe for postwar expansion. They have the materials, facilities and space.

Union Pacific will continue to play its part in the future progress of this western territory by providing unexcelled freight and passenger transportation over its Strategic Middle Route.

*Be Specific—say "Union Pacific"*

★ Union Pacific will, upon request, furnish information about available industrial and mercantile sites in the territory it serves. Address Union Pacific Railroad, Omaha, Nebraska.



The Progressive

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## Home Freezer Prices

### Harder 18 Ft. Units To Retail at \$595

COBLESKILL, N. Y. — Maximum prices for farm freezers manufactured by the Harder Refrigeration Corp. here, a division of the Tyler Fixture Co. of Niles, Mich., have been fixed by OPA at the following levels:

Model	On sales to—		
	Agency distributors	Dealers	Consumers
HU-18F—18 cu. ft. reach-in	\$357.00	\$416.50	\$595.00
HU-18D—18 cu. ft. reach-in	357.00	416.50	595.00
HU-18F—18 cu. ft. reach-in less compressor and valve	267.00	311.50	445.00
HU-18D—18 cu. ft. reach-in less compressor and valve	267.00	311.50	445.00

Model HU-18F is an upright with 18 cu. ft. of frozen food storage space equipped with a processing compartment, and Model HU-18D is a dual purpose unit containing 9 cu. ft. of frozen food storage space and having a 9 cu. ft. normal temperature storage compartment.

The above ceiling prices were set forth in Amendment 2 to Order 43, MPR 591, and are subject to the usual stipulations of discounts and crating.

### Robbins & Burke Prices Cover 5 Models

CAMBRIDGE, Mass. — Robbins & Burke, Inc., here has received permission from OPA under Order 173, MPR 591, to sell five models of its farm and home freezers at the following prices:

Model No.	Description	On sales to—		
		Distributors	Dealers	Consumers
15	15.3 cu. ft. with 1/4 hp. condensing unit, with stainless steel top	\$319	\$383	\$638
20	19 cu. ft. with 1/2 hp. condensing unit, with stainless steel top	362	435	724
5	5 cu. ft. with 1/4 hp. condensing unit	150	180	300
10	10 cu. ft. with 1/4 hp. condensing unit	215	258	430
10	10 cu. ft. with 1/4 hp. condensing unit	200	240	400

These maximum prices are f.o.b. point of shipment, and the usual charges for crating are additional, OPA said.

### NATIONALLY ENDORSED



"A penny saved is a penny earned"—You'll save many a penny and dollar too if your moving equipment includes a Mastercraft Adjustable Refrigerator Pad and Carrying Harness. They're doubly economical because of their adjustability to any size cabinet. The pad, sturdily constructed to furnish protection from scratches and marks is priced at \$11.75 each, Harness at \$8.50 each.

Attractive lettering of your name on pad at \$2.00 each extra. Write today for complete folder and prices on pads for refrigerators, home freezers, washers, ironers, ranges, radios; also furniture pads and protective slipcovers.

**BEARSE MANUFACTURING CO.**  
Incorporated 1921  
3815-3825 Cortland Street  
Chicago 47, Ill.

## New Frozen Food Organization Will Adapt Appliance Merchandising Techniques

NEW YORK CITY—In an effort to bring to food merchandising the streamlined and aggressive promotional sales techniques of the appliance business, United Frozen Food Distributors, Inc., has been organized here. First operation of the organization was to franchise distributors in major midwest cities, and plans are under way to continue this activity in 12 to 15 major cities on the seaboard, officials say.

Franchised distributors will retail, and in some cases wholesale, the company's branded line of frozen food storage cabinets for homes, using the promotion and selling techniques that have been tried and proved in the appliance business, announced R. F. Horan, president of the organization.

### HOME DELIVERY SERVICE

In addition to selling and servicing the cabinets, each distributor will set up a home delivery service to sell frozen foods to the homemaker. The foods, too, will carry the private brand names of the national organization which are now in the process of being cleared for registration.

Distributor outlets are being sought, not in the frozen food field

alone, but in organizations with experience and background in merchandising of appliances. United Frozen Food Distributors, Inc., plans to have local directors serve on its board of directors to participate in management and policy formulation.

Recent additions to its distributor list include such companies as Allied Oil Co. of Cleveland and Braun Bros. Heating Supply Co. of Chicago, Mr. Horan said.

Central office of the new organization will serve as national buyers for both food and equipment, and in addition will furnish distributors with a complete merchandising and promotional service, the plans for which are under way now. National and local advertising campaigns are being formulated, with the general plan being to base advertising upon the well known advantages that frozen foods offer to the consumer, plus the additional convenience and economy offered by home delivery service, stated Mr. Horan.

One of the popular misconceptions which United Food Distributors, Inc., hopes to correct was pointed out by Mr. Horan, who said, "The common use of the term, 'home freezer,' is more than just a bad name. It is a

basic misconception which must be corrected. There does exist a considerable market for home freezing units in the rural areas where home preservation of food is a major function," he conceded, "but in the city and suburbs, home storage of frozen food rather than home freezing is the essential."

"People must be led to accept commercially frozen and sold food products, not led to believe that freezing their own garden produce will ever solve their food problems," believes Mr. Horan.

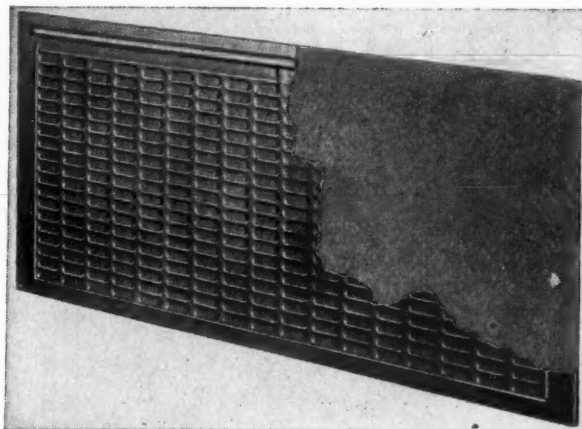
"Home storage of frozen food takes the place of widespread home canning once common in city as well as country residences," he continued, "but as we known, the city and suburban housewife has largely given up large scale canning and is buying canned and preserved foods."

### STORAGE UNITS NEEDED

"Our job, and the job of the frozen food industry, is to tell the homemaker that the new zero temperature storage units are necessary to store this frozen food for home use," Mr. Horan concluded.

Mr. Horan was formerly director of sales education with the General Electric Co.; and David Wepman, secretary and treasurer of United Frozen Food Distributors, Inc., was previously employed by G. E. in its advertising department. Mr. Wepman spent the war years as an Army Air Forces public relations officer.

## The HUBBELL-YODER SYSTEM of FULL FLOODED PLATE REFRIGERATION



### Let's Get it Down to Brass Tacks...

The outstanding characteristic of Hubbell-Yoder Full Flooded Refrigeration Plates—the feature which sets them completely apart from all other methods of applying the established principles of mechanical refrigeration—is the fact that the interior of a Hubbell-Yoder Plate is a network of ducts through which the refrigerant flows in all directions. The term "full flooded" means literally that the refrigerant is circulating through the plate in the form of a broad sheet.

Thus the prime pick-up surface is the whole plate area. A 22" x 72" plate, for example, actually means 1584 square inches of surface on which you couldn't put the point of a pin anywhere where heat units must travel as much as half an inch in order to reach the refrigerant. It's the fastest, most

efficient, most economical system of heat transfer you ever saw.

Do you manufacture low temperature equipment such as freezer cabinets, ice cream cabinets, equipment for frozen food locker plants and ice cream hardening rooms, milk and beverage coolers, fruit and vegetable counters and the like? If so, may we offer just one thought—

The refrigeration service your customers will get out of your product depends very largely on the refrigeration system you put into it.

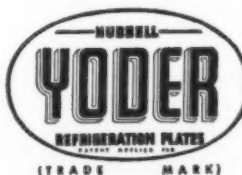
We should like to tell you how Hubbell-Yoder Full Flooded Plates can help you meet the sharp competition that is just ahead. Write, wire or phone for particulars.

## ENGINEERING SERVICE, INC.

1311 WEST 80TH STREET

CLEVELAND 2, OHIO

Sole Agents



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**LIVE WIRE DEALERS Wanted**

**IN YOUR TERRITORY to handle these Positively Proven New Type FROZEN FOOD LOCKER PLANTS**

**You Can Make 50% AND MORE**

**ON THESE \$8000 OR BETTER FROZEN FOOD LOCKER UNITS**

There's a Potential Customer for Frozen Food Lockers wherever there's a neighborhood shopping center.

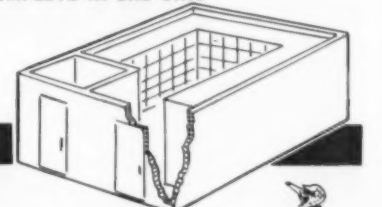
Estimates are that more than 250,000 plants will be purchased in the nation in the very near future. Make plans now to get your share of this profitable business.

Alert dealers, who are already handling air conditioning and refrigeration, find that frozen food lockers make a perfect year around tie-in with their present business setup.

Write in now—you'll be glad you did!

### Reasons Why It's Easy to Feature Frozen Food Lockers

- PREFABRICATED—CONTAINING 100 OR MORE SEPARATE LOCKERS
- COMPLETE WITH SHARP FREEZE AND CHILL ROOM
- UTILIZES ONLY SMALLEST POSSIBLE SPACE
- CAN BE INSTALLED WITHIN 10 DAYS
- EVERY NEIGHBORHOOD NEEDS ONE
- COMPLETE IN ONE UNIT



for full information WRITE DIRECT to SALES MANAGER

**FROZEN FOOD LOCKER CONST. CO.**  
MEMPHIS 9, TENNESSEE



## Ice Rink Will Become Frozen Foods Plant

STOCKTON, Calif.—United States Quick-Frozen Products, Inc. will convert the Stockton Ice Rink into a quick-freeze food products plant at a cost of more than \$150,000, it was disclosed Jan. 21, by Karl L. Rigor, president of the corporation.

The new plant, when remodeled and enlarged, will cover an entire city block at Lincoln and Weber Sts., Stockton, Calif., and will be ready for operation in April when the asparagus season opens. Other winter fruits and vegetables from the famous growing and packing area of Stockton, will be frozen for shipments as the harvests come in at various times of the year, said Mr. Rigor, in regard to future plans of the new corporation.

First plans are to freeze products in Stockton and ship to the East in specially designed zero-temperature refrigerator cars, and ships may be used later from the deep-water port of Stockton when export markets are open, Mr. Rigor indicated.

United States Quick-Frozen Products, Inc., is a four-man corporation whose principals are, besides Mr. Rigor: Carl Lovegreen, vice president of United States Products Corp., of San Jose, Calif.; and Louis Benoist and William Hanley of the Lawrence Warehouse Co. of San Francisco. The brand names of the San Jose concern may be used for products of the new Stockton plant, Mr. Rigor said. He is a graduate of Stockton's College of the Pacific and he formerly was associated with several similar businesses in Oakland, Calif.

## Kaufman, Martin Named To Northwest Baker Posts

OMAHA, Neb.—Promotion of Vincent J. Kaufman from assistant chief engineer to general manager of Northwest Baker Ice Machine Co. and appointment of Harry L. Martin, formerly of Commercial Controls Corp., of Rochester, N. Y., as treasurer were announced recently.

Announcement was made by William B. Winslow, vice president and general manager of Baker Ice Machine Co., Inc., of which Northwest Baker is a subsidiary.

Mr. Kaufman, formerly chief engineer of the Baker company's Fort Worth (Tex.) branch, replaces Frank W. Knowles, who resigned to concentrate on personal interests. In 1937, Mr. Kaufman came here as assistant chief engineer.

## Locker Plant Proposed For New City Market

NEW WESTMINSTER, B. C., Canada—Installation of a cold storage locker system was included in the plans for the new city market which it is proposed to build west of Tenth St. in New Westminster, B. C.

When plans for erection of a new market were considered by the City Council, suggestion was made that New Westminster could support more than one locker plant. It was suggested that such a plant should be erected in connection with the market building and it could then be operated by either the city or leased to a firm for private operation.

## Spokane Commercial Firm Claims Largest Display

SPOKANE, Wash.—E. S. Matthews, Inc., manufacturer and distributor of Electro-Kold refrigeration products, has purchased the three-story building adjoining its present location which will provide what company officials believe is the largest refrigeration display floor of any commercial refrigeration firm in the Pacific northwest.

Containing 14,000 sq. ft., the first floor of the new building has been remodeled for display use. Space is now available for display of the largest type of walk-in boxes, soda fountains, and refrigerated display cases, which can be loaded and unloaded directly from the company trucks for transportation to the job or for shipment to dealers, said E. S. Matthews, president of the corporation.

Railway trackage, which permits unloading of carload shipments direct to freight elevators capable of handling fixtures up to 20 ft. in length, is also available with the new building, it was disclosed by company officials.

E. S. Matthews, Inc., has been engaged in the manufacture and distribution of such refrigeration equipment as special fountain, bar, and restaurant fixtures; store frosted food cabinets; and farm and home freezers under the trade name of Electro-Kold since 1922. Its retail affiliate is known as Electro-Kold Co.

Officers of the firm are: E. S. Matthews, president; W. R. Matthews, vice president; and G. G. Gillmore, assistant secretary and treasurer. James G. Plummer is shop foreman.

## Frostorage Plant To Hold 10,000 Tons of Fruit

YUBA CITY, Calif.—The Frostorage Co., Inc., of Oakland, Calif., will build immediately a precooling and cold storage plant, with a capacity of more than 800,000 cu. ft., at Yuba City, Calif., on Southern Pacific Railroad spur facilities, at an estimated cost of \$500,000.

The new plant, designed by Architect Frederick H. Reimers, will be erected by Contractors Lindoren & Swinerton, of San Francisco, and will have facilities for the storage of more than 10,000 tons of fruit.

## \$100,000 Apple Storage Unit Is Proposed

CANOE, B. C., Canada—Construction of a new cold storage warehouse and packing plant at Canoe, B. C., is proposed by the Salmon Arm Farmers' Exchange. The total cost of the project, including installation of an apple grader, is estimated at \$100,000.

The proposed plant will have a storage capacity of 100,000 boxes of apples and it is hoped to start construction at an early date in order to have the warehouse partly completed to handle the 1946 crop.

## Kohlenberger Buys Site To Erect New Factory

FULLERTON, Calif.—A six-acre tract has been purchased on West Commonwealth Ave. here, by the Kohlenberger Engineering Corp. of 805 South Spadra St., Fullerton, as the site for a new factory in which to manufacture refrigeration machinery and equipment.

The main factory building will be about 700 feet in length, of steel and stucco construction, and an administration building will be erected nearby.

## Locker Plant for Long Beach

LONG BEACH, Calif.—A new locker plant is being erected at 5115 North Atlantic Ave., North Long Beach, Calif., for Francis Fisher, of 2182 Pasadena Ave., Long Beach. It will provide 6,650 sq. ft. of floor space and will cost \$20,000.

## Home Freezer May Double Ice Cream Consumption

OMAHA, Neb.—The predicted doubling or tripling of ice cream consumption in the United States in the next five years will have considerable effect upon the refrigeration industry, it was brought out at the annual meeting of the Nebraska Ice Cream Manufacturers' Association here Jan. 22 to 24.

Home freezers and low temperature compartments in refrigerators likewise are expected to be a boon to the ice cream industry, according to O'Neal M. Johnson of the International Association of Ice Cream Manufacturers.

"It will be possible for the housewife to stock a number of flavors of ice cream in the deep-freeze compartment, keeping the varieties in a carton. The dessert time problem then will be merely, vanilla, chocolate, or strawberry," said Mr. Johnson.

Mr. Johnson also predicted that the day of "turning the crank" on the ice cream freezer is about done for the farmer. Instead, the farmer will be buying ice cream in town in gallon lots, putting it in his locker or home freezer along with fresh meats and other edibles.

## Rockwell Buys Arcade Plant In Freeport, Ill.

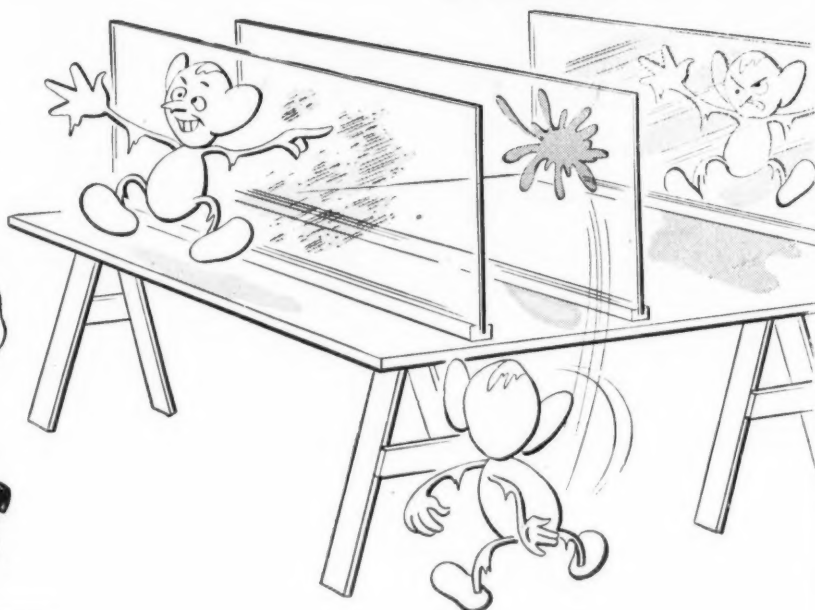
PITTSBURGH—Rockwell Mfg. Co. here recently purchased the Arcade Mfg. Co., manufacturer of hardware for the refrigeration industry and other products, located in Freeport, Ill., according to an announcement by Willard F. Rockwell, president and chairman.

Present management of the Arcade company will be continued, with the exception of L. L. Munn, president for many years, who will retire in the near future.

Other subsidiaries and divisions of the Rockwell Mfg. Co. include the following: Pittsburgh Equitable Meter Division, Nordstrom Valve Co., Rockwell Machine Co., Delta Mfg. Co., V & O Press Co., Edward Valves, Inc., Crescent Machine Co., Monessen Foundry & Machine Co., and Rockwell International Corp.

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REG. U. S. PAT. OFF.



### Get These 5 Advantages of Thermopane

1. **INSULATING AIR SPACE.** The layer of air inside the Thermopane unit is scientifically cleaned, dried and hermetically sealed at the factory. This sealed air space gives Thermopane its high insulating efficiency.

2. **L·O·F'S BONDERMETIC SEAL.** This metal-to-glass seal bonds the panes of glass into one unit to guard against dirt and moisture entering the air space.

3. **CLEARER VISION.** The sealed-in dry air greatly reduces the possibility of condensation.

4. **ONLY TWO SURFACES TO CLEAN.** The glass surfaces inside a unit are specially cleaned at the factory. No extra cleaning is required.

5. **FABRICATED TO SIZE.** Each Thermopane unit is manufactured to your exact specifications—requires no cutting or trimming, and is easily installed like a single pane of glass.

### Thermopane's Inner Surfaces Are Factory-Cleaned...Saving Installation Time, Labor and Trouble

With the pent-up demand for frozen food and refrigerated dispensing cases, refrigeration engineers will want to give their cases maximum sales ability. What better way than to equip them with Thermopane, L·O·F's multiple-pane insulating unit?

Not only is Thermopane fabricated to specification at the factory, but the inside surfaces of each unit are specially cleaned—eliminating dirt, smudges and dust when the unit is installed in the new case. This saves time, labor and money... and insures a clear, clean glass front.

For your new cases specify Thermopane. Prices and specifications available. Write Libbey-Owens-Ford Glass Company, 1226 Nicholas Building, Toledo 3, Ohio.

WHEREVER VISION IS IMPORTANT  
USE L·O·F Polished Plate Glass



**LIBBEY · OWENS · FORD**  
a Great Name in GLASS

### PETE and PAT . . . The PENN-TUBE Pals



"Look here, my little Cupid! Penn Tubing is easy to bend, but cut that Valentine stuff!"

Coil after coil, PENN TUBING is uniform, easy to bend . . . bright and clean . . . ends sealed. Your jobber has PENN TUBING in all sizes . . . 1/8" to 3/4" inclusive . . . 25-, 50- and 100-ft. coils.

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SEAMLESS REFRIGERATION Tubing  
1920 · 1945 ★ OUR 25TH ANNIVERSARY



## Joins Reynolds



**R. H. MONEY**  
Formerly chief refrigeration engineer for Crosley Corp., he has become an advisor to the Parts Division of Reynolds Metals Co.

## Price Controls--

(Concluded from Page 1, Column 5)  
minor items have been removed from control, and OPA will continue its policy of gradual removal with the thought of eventual ending of all controls as soon as possible.

Three six-month stages which comprise the 18-month "transition period" were labeled by Mr. Baker as (1) Stage of Labor and Materials, (2) Expansion to Capacity Production, and (3) Capacity Production at Stable Costs.

First stage, the one the country is in now, is the "most critical" in the history of price control because of the shortage of consumer goods and most of the factors needed for their production, according to Mr. Baker.

Any broad withdrawal of price control during this first period would find the national economy reacting with "explosive force," he predicted.

Emphasis of OPA policy during this period must be upon selective increases in ceilings to relieve supply shortages provided these shortages are actually due to price ceilings and not other factors, believes Mr. Baker.

### SHORTAGES IN STAGE TWO

Stage two should see the end of manpower, materials, and facilities shortages, with the exception of building construction, he said. This period, which should end in December of 1946, should find production reaching a level that will keep pace with demand at the present price levels, although there will continue to be acute shortages in a number of consumer goods, pointed out Mr. Baker.

During this second period OPA could speed up the dropping of controls without risking unfair or uneconomic diversion of men and materials, and by this time there should be fewer occasions for price increases on the grounds of supplies, he said.

In the third stage, January to June, 1947, production of raw materials, semi-finished materials, and perhaps completely fabricated parts and components will probably reach an output level equal to or in excess of the rate at which the manufacturers of end-products can use them, which would mean the end of price pressures for such materials even though demands might continue for price increases for end-products, predicts Mr. Baker.

### EASIER IN THIRD STAGE

"This also means that with the stabilization of labor costs following readjustment of wage rates in stage one with the restoration of normal levels of labor efficiency in stage two, the prices of manufactured products at all stages of production will no longer be under significant pressure from rising costs," he declared.

"The area of inflationary danger—aside from the building construction field where shortages will probably be continuing—would therefore be confined largely to consumers' goods. The dangers of inflationary prices rises in consumer goods, which would be high at the beginning of stage three, should diminish progressively as the period during which production has been at high levels lengthens.

"OPA policy in stage three would call for widespread de-control of materials and parts outside the building fields. A more selective

process of de-control would be necessary in the field of consumers' goods," he said. "Here, as acute shortages were relieved so that consumers' stampedes were unlikely, the opportunity for de-control would expand.

"Moreover, in some areas in which production has tended to outrun demands significant reductions in prices could be counted on. And these would serve to offset in part at least such increases as might follow the ending of controls," emphasized Mr. Baker.

## Calif. Law --

(Concluded from Page 1, Column 3)  
cluded in a broad program now being carried out by the association under the slogan, "1946—the Industry United." Other phases of the program involve examination of contractor-jobber relationships, negotiation of grievances among members of the industry, and a membership drive.

Function of the contractor-jobber relationships committee is to work out a "more harmonious program in merchandising and installing refrigeration." It is the belief of the association that "methods and programs can be successfully synchronized."

The grievances committee will receive and undertake to adjust complaints of members of the industry, particularly those pertaining to unfair trade practices. Members are requested to file grievances with the committee and the association office.

In addition to those mentioned, other standing committees are: meeting attendance, program, membership, apprenticeship training, and permanent labor negotiations. With reference to the labor committee, it was announced that the association is cooperating with organized labor "to develop a master working agreement for the entire Bay District."

### DRIVE FOR MEMBERS

The current membership drive is aimed at expanding the association's roster to include some 200 outside contractors. Plans for the drive were worked out after the board of directors voted to extend membership privileges to contractors and service firms throughout the upper part of the state.

These plans include a thorough canvass of the northern territory, community meetings, and a direct-mail campaign.

Z. E. Jones, secretary-manager, will contact refrigeration men in the larger communities and explain operation of the association at group meetings. The mail campaign consists of an introductory letter, an explanatory special bulletin, a membership application, and a list of charter members—all being sent to prospective members.

The board of directors has authorized a special membership offer, to be in effect for the next few months, of \$25 a year for non-resident contractors. Costs to resident members include a \$15 initiation fee plus a minimum of \$5 for dues.

Organized last July as a non-profit organization, the association now consists of 80-odd contractors and service firms in the San Francisco bay district.

### STRESS GROUP ACTION

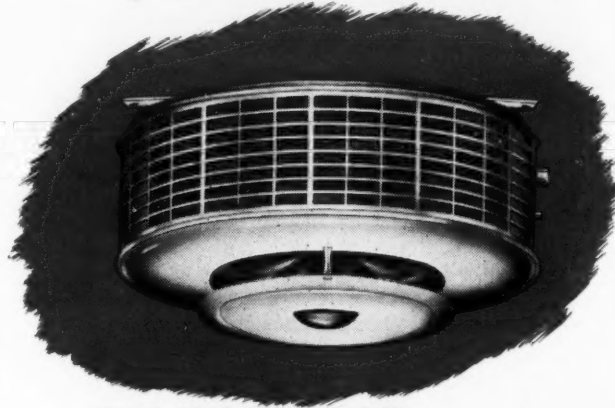
The special bulletin calls attention to the benefits of group action "in such matters as general stabilization of the industry, fair trade practice agreements, contractor-jobber relationships, participation in legislative matters, and in the National Association of Refrigeration Contractors."

Other advantages pictured for members are:

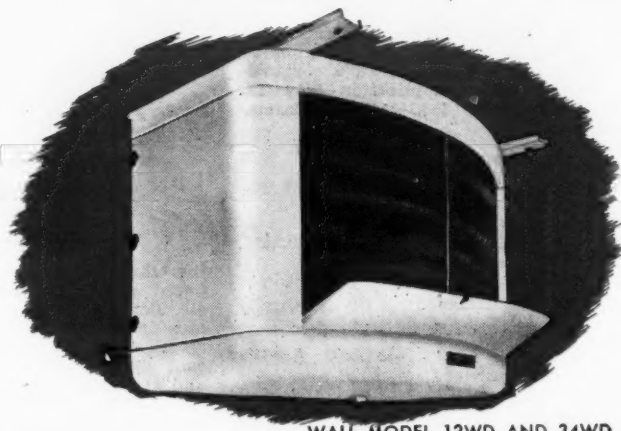
Regular mailing list and complete bulletin service; use of association membership emblem cuts and 90-day guarantee stickers; group compensation insurance coverage, if desired with substantial reduction in insurance costs; savings effected by any group purchasing plans adopted; advice and information regarding laws, regulations, etc., relating to the industry; conference and correspondence with the Association's office on matters relating to the industry; and membership certificates and pocket membership cards.

Besides Mr. Turner and Mr. Jones, other officers of the association are Lee Shirar, vice president; Ed Tanner, treasurer; and Al Robinson, recording secretary. Directors are J. B. Chapman, C. H. Merrill, Mr. Robinson, E. L. Sattler, J. A. Scatena, Mr. Shirar, Mr. Tanner, and Mr. Turner.

## New M&E WALL AND CEILING DIFFUSERS



CEILING MODEL 12CD AND 34CD



WALL MODEL 12WD AND 34WD

## FOR MEATS, PROVISIONS, AND ALL ABOVE-FREEZING APPLICATIONS

Outstanding features are: Modulated, equally distributed air flow eliminating dead air pockets in cabinet. Avoids excessive dehydration, sliming, condensation, water drip, or wet floors. Maintains high relative humidity. Small, compact,—take little space in cabinet. Completely automatic. Heat exchanger in all models. Accurate and reliable A.S.R.E. Ratings. . . . Now in limited production. Data sheets on request.

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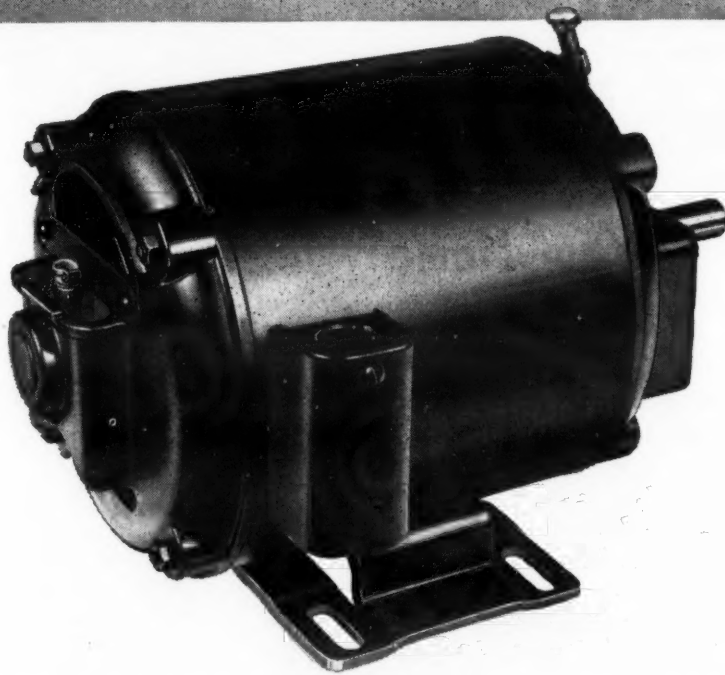
**MERCHANT & EVANS CO.**

Plant & General Offices: 2035 WASHINGTON AVENUE, PHILA. 46, PA.



PIONEER MANUFACTURERS OF HEAT TRANSFER EQUIPMENT

## This Two-in-One Motor Handles a Wide Variety of Jobs Efficiently and Economically



The Wagner type RA repulsion-start induction motor is indeed worthy of its reputation as the "general-purpose motor" of the single-phase motor field. Its electrical characteristics combine the best features of two types of motors: the repulsion motor during the starting period, and the induction motor while running at rated operating speeds.

As a repulsion motor, the Wagner type RA motor has a high starting-torque that enables it to start high-inertia loads and accelerate them smoothly. At the same time it requires the lowest starting-current of any type of single-phase motor, and is therefore the least likely to cause light flicker.

As an induction motor, the Wagner

type RA motor has a fairly constant and high operating-speed at all operating loads, and a flat efficiency curve over a wide operating range.

This versatile motor is not only exceptionally suited for use on practically every type of motor-driven appliance and machine normally utilizing single-phase current, but is also the only choice for a wide variety of applications because of its low upkeep cost, minimum servicing, freedom from vibration and noise, and years of reliable service.

For complete information, write for Bulletin MU-185, and address your request to Wagner Electric Corporation, 6441 Plymouth Avenue, St. Louis 14, Mo.

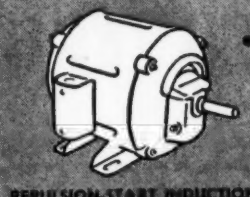
Other WAGNER PRODUCTS for Industry: • AIR BRAKES • BRAKE LINING • ELECTRIC MOTORS • HYDRAULIC BRAKES • INDUSTRIAL BRAKES • INDUSTRIAL BRAKE CONTROLS • No. 1 • TACHOGRAPH • TRANSFORMERS

Consult Wagner Engineers on all Electric Motor Problems

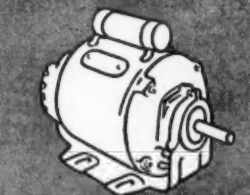
# Wagner

Sales and Service Branches: ATLANTA 3 • BALTIMORE 18 • BOSTON 15 • BUFFALO 8 • CHICAGO 16 • CINCINNATI 10 • CLEVELAND 15 • DALLAS 1 • DENVER 2 • DETROIT 2 • HOUSTON 2 • INDIANAPOLIS 4 • KANSAS CITY 8 • LOS ANGELES 15 • MEMPHIS 3 • MILWAUKEE 2 • MINNEAPOLIS 4 • NEW YORK 7 • OMAHA 2 • PHILADELPHIA 8 • PITTSBURGH 13 • PORTLAND 9 • ST. LOUIS 3 • SALT LAKE CITY 1 • SAN FRANCISCO 3 • SEATTLE 4 • SYRACUSE 2 • TULSA 3 • WASHINGTON 5  
In Canada: WAGNER ELECTRIC AT LEASIDE, ONTARIO

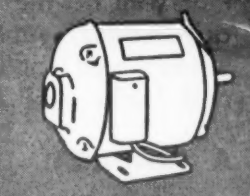
Wagner motor parts are available at 350 Wagner-owned and contract repair shops.



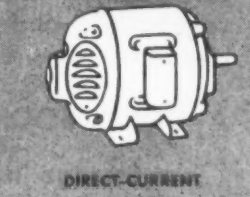
REPUSSION-START INDUCTION



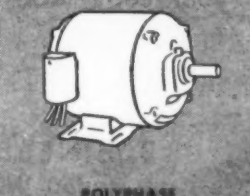
CAPACITOR-START INDUCTION



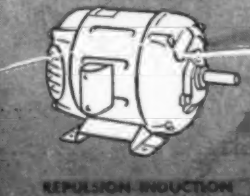
SPLIT-PHASE



DIRECT-CURRENT



POLYPHASE



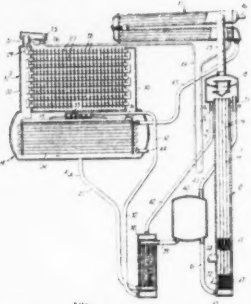
REPUSSION INDUCTION



# PATENTS

Week of Jan. 29, 1946

2,393,630. **REFRIGERATION.** Franklin A. Grossman, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application May 13, 1941, Serial No. 393,161. 8 Claims. (Cl. 62-119.)

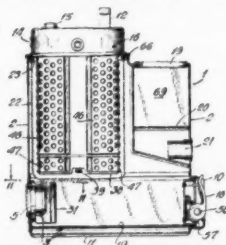


1. In an absorption refrigeration apparatus operable below atmospheric pressure, a vertically extending vapor expeller comprising a riser tube, a connection for introducing absorption solution enriched in refrigerant into the lower end of said tube, a connection for withdrawing solution deprived of refrigerant from the upper end of said tube, and a helical coil insert snugly fitting against the inner surface of said tube and located only in the lower part thereof.

2,393,788. **VACUUM CLEANER.** Gustaf Elmar Lofgren, Riverside, Conn., assignor to Electrolux Corp., New York, N. Y., a corporation of New York. Application Oct. 10, 1942, Serial No. 461,520. 7 Claims. (Cl. 183-37.)

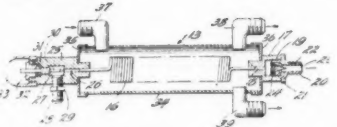
1. A vacuum cleaner comprising a first hollow casing having a first opening near the bottom thereof and a second opening near the top thereof, a bag shaped semi-permeable fabric supported in said casing with a mouth of the bag coincident and adjacent said second opening, said fabric separating said casing into upper and lower chambers, the lower chamber constituting a dirt collector, a unit in the upper chamber supported from the casing

adjacent said second opening and extending within said bag, said unit comprising a second hollow casing having openings in the bottom and top thereof and otherwise closed, electric means within the second casing for producing a flow of air



therethrough, a fine particle filter so disposed within the second casing that all air flowing through the second casing must pass through the fine particle filter, an electric cord connector for connecting said electric means to a source of power, and an electric switch for controlling said electric means, said connector and switch being mounted on said second casing at the top thereof, said unit including said fine particle filter being removable through said second opening.

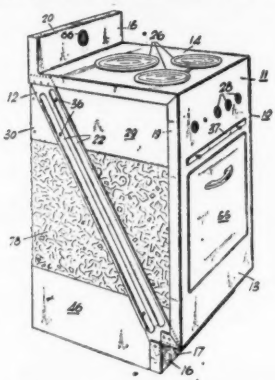
2,393,854. **FEED CONTROL FOR LIQUID REFRIGERANT.** Thomas E. Carpenter, New York, N. Y.; Elizabeth C. Carpenter administratrix of said Thomas E. Carpenter, deceased. Application Jan. 31, 1942, Serial No. 429,042. 7 Claims. (Cl. 62-127.)



1. A refrigerant expander comprising an outer casing, a capillary tube therein, means carried by the casing for supporting the inlet end of the said capillary tube and conducting refrigerant to said tube, and a device for supporting the outlet end of the said tube and conducting the refrigerant therefrom, said device including manually operable means for adjustably throttling the outlet end of said capillary tube for securing and maintaining desired pressure reduction in the refrigerant discharged from said

expander with respect to the pressure of the refrigerant entering the expander.

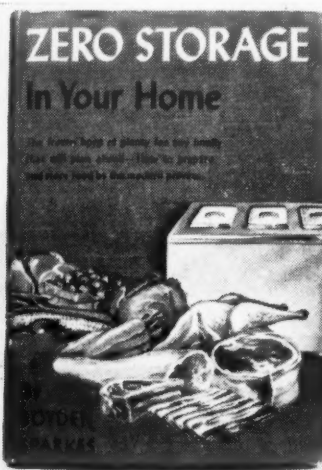
2,393,879. **HEATING APPARATUS.** Alfons Barnsteiner, Mansfield, Ohio, assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Sept. 30, 1941, Serial No. 412,932. 9 Claims. (Cl. 126-37.)



1. A range comprising a one-piece wrapper sheet including a front panel, a horizontal platform and a vertical back splash, said platform having recesses therein adapted to receive heating elements, a brace member for said wrapper sheet disposed at each side thereof and attached to said platform adjacent the rear end thereof and to said front panel adjacent the lower end thereof, a heater box disposed beneath said platform, and means for supporting said heater box on said braces.

## AVAILABLE FOR LICENSING OR SALE

Pat. 2,250,074. **PORTABLE HEATER.** Patented July 22, 1941. Simple construction of tubular sheet metal which provides maximum heat radiation by positioning frustoconical casings midway the heater to provide a passage for heated air. May also be utilized for cooking purposes by removing ornamental cap and utilizing deflection plate as support for vessel. (Owner) Harry Weldon, 520 West Mistletoe, San Antonio, Tex. Groups 33-63-69; 36-21. Reg. No. 1,037.



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## Read these excerpts . . . .

"Our freezer, having paid for itself, is, I might say, running an automobile. But it is doing much, much more for us. It is enabling us to realize completely our dream of life in the country."

"The locker plant probably will acquire a more imaginative name in the future, one that won't require interpretation."

"...canning is tedious . . . results are not nearly so satisfactory as freezing."

"My husband says it's the best thing we have in the house."

"... take a couple of days and prepare six or eight Sunday dinners."

"... henceforth they will maintain their food supply through a cycle of operations embracing their farm, the locker-plant facilities, and one home freezer."

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$2.50 per insertion. Limit 50 words.

### POSITIONS WANTED

**MAN:** 15 years experience, seven years in own business. Capable designing, installing, and servicing jobs from 1/2 to 50 hp. Some sales ability. Has shop equipment and service truck. Interested permanent or good seasonal profit-sharing proposition. Write details. **ARMSTRONG,** Room 862, 50 Church St., New York 7, N. Y.

**ASSISTANT CHIEF ENGINEER** large company. Familiar with all four refrigerants from design and application standpoint. Actively engaged in engineering, research, design, and manufacturing past 14 years. Seeks connection with small, aggressive company where ability and experience will get results. Southwestern area preferred. Minimum salary \$6,500. Box 1909, Air Conditioning & Refrigeration News.

**AVAILABLE:** Top notch air conditioning and refrigeration engineer available about March 1. M.E. graduate, age 43, with 18 years background of design, development, teaching, writing, engineering sales, service, and consulting in refrigeration and air conditioning. Box 1916, Air Conditioning & Refrigeration News.

**SALES ENGINEER:** Experienced in application, installation, and service of all refrigeration, air conditioning, and heating equipment. Desires to locate in Midwest or South. Four years experience as manager of refrigeration jobbing house. Six years engineering and sales experience. Can furnish best of references. Available at once. Box 1918, Air Conditioning & Refrigeration News.

**FIELD SERVICE Engineer,** 38, married, desires connection with manufacturer or sales organization; 20 years experience in commercial refrigeration and air conditioning. Will travel southwest or west coast. Will consider sales or taking charge of large service shop. References. Further information on inquiry. Box 1920, Air Conditioning & Refrigeration News.

**ENGINEER,** 25 years technical and commercial experience, refrigeration and air conditioning, speaks French, Spanish, Good salesman, familiar with Central South America, African and European market. Wishes position with foreign establishment or act as factory representative for American manufacturer. Box 5082, Miami, Fla.

### POSITIONS AVAILABLE

**EXCELLENT OPPORTUNITY** in charge of sales department of well established and recognized wholesale parts and accessories refrigeration wholesaler. A large volume business already established covering four Eastern States. Must be thoroughly familiar with refrigeration business and must have engineering background. State qualifications in full. Box 1531, Air Conditioning & Refrigeration News.

**APPLICATION ENGINEER:** familiar with technical and practical applications of heat transfer equipment wanted by refrigeration and air conditioning manufacturer located in Michigan. Please advise background and qualifications. Box 1793, Air Conditioning & Refrigeration News.

**SALES MANAGER—Opportunity** for an experienced man to establish and manage a Wholesale Refrigeration and Air Conditioning Jobber Supply Department in Tennessee as part of a national distributing company. Give full details of experience including education, compensation expected, and five industrial references. All replies are confidential. Box 1923, Air Conditioning & Refrigeration News.

**AD-SALES ENGINEER.** Capable of organizing state-wide sales force for an energetic refrigeration firm located in California. Please write fully and state salary and commission desired. Box 1924, Air Conditioning & Refrigeration News.

### FRANCHISES WANTED

**DISTRIBUTORS** for ventilating fans, water coolers, room coolers, frozen food cabinets, hot water heaters, oil furnaces, and similar lines not conflicting with Worthington Refrigeration and Air-Conditioning, Superflex furnaces, Florida and South Georgia. **REFRIGERATION & AIR-CONDITIONING DIVISION,** All-Metals Products Co. of Florida, 26 N. Catherine St., Jacksonville 2, Fla.

**AVAILABLE:** Will represent on an exclusive basis manufacturers of refrigeration equipment and related lines. Headquarters Chicago. Covered midwest territory 14 years. Ex GI son as partner. Best of references. Box 1921, Air Conditioning & Refrigeration News.

### EQUIPMENT WANTED

**DISPLAY CASES,** new, 6, 8, 10, 12 ft. complete with platters and accessories but without condensing units and crated for shipment. Give full particulars and prices. Prefer double-duty new cases and also good used cases. Write Box 1922, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

**FOR SALE:** 500 used ice cream cabinets, direct expansion \$10 per hole, Brine \$5 per hole "as is." All sizes from 2 to 10 holes. Re-manufactured A.C. condensing units 1/4 hp. up to 1 1/2. Write for particulars. **EDISON COOLING CORP.,** 310 East 149th St., New York 51, N. Y.

**BEVERAGE COOLERS:** 6 ft. capacity 22 cases; 8 ft. capacity 30 cases. These are dry coolers with heavy duty coils and one forced-air fan in 6 ft. model, two in 8 ft. model. Both have stainless steel doors and trim. Immediate delivery. **GENERAL REFRIGERATORS CORP.,** 678 Broadway, New York 12, N. Y., STuyvesant 9-1222.

## KRACK ENGINEERED

**UNIT COOLERS  
FIN COILS  
AIR CONDITIONING**

**Refrigeration Appliances, Inc.**  
923 W. Lake St., Chicago 7, Ill.

## NIBCO WROT

**AND CAST  
VALVES AND FITTINGS**

*for Refrigeration*

**NORTHERN INDIANA BRASS CO.**  
ELKHART, INDIANA

**GENUINE  
MAYFLOWER  
CONDENSING UNITS AND PARTS**

**Jobber Inquiries Invited**

A complete line backed by nearly a quarter century of user confidence. Write for prices.

**MAYFLOWER PRODUCTS, INC.**  
13 S. 5th St., Richmond, Ind.

**NIAGARA  
DUO-PASS  
AERO-CONDENSER**

● Lowers condensing temperatures, saves power and water, increases the capacity of present equipment. Patented Duo-Pass prevents scaling of condenser tubes.

**NIAGARA BLOWER COMPANY**  
25 Years of Service in Air Engineering  
6 E. 43th St., New York 17, N. Y.

**WE ARE PREPARED  
To distribute your products of**

- ★ Air-conditioning Refrigeration
- ★ Refrigerators
- ★ Food Freezers, etc.

Along the Eastern Seaboard States. Our salesmen cover the 48 states. For those who want this representation, write—

**New York Refrigeration**  
883-1st Ave., New York City

**"RECORD"  
WATER DEFROST**

**REFRIGERATION ENGINEERING INC.**  
LOS ANGELES - CALIFORNIA

**REFRIGERATION SUPPLIES**

We stock a complete line of refrigeration supplies and equipment for immediate delivery.

Send for our 1946 circular

**G & E Equipment Supply Co.**  
400 N. Sangamon Street  
CHICAGO 22, ILLINOIS

**REFRIGERATION ACCESSORIES**

- Instantaneous Water and Beverage Coolers.
- Oil Separators.
- Two-Temperature Valves.
- Accumulator Heat Exchangers.
- Equalizer Tanks.
- Controlled Temperature Photographic Processing Units.
- X-Ray Refrigerating Units.

**TEMPRITE PRODUCTS CORPORATION**  
47 PIQUETTE AVENUE DETROIT 2, MICHIGAN

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From cover to cover a practical book, it gives all necessary information on the function, purchase, and operation of the unit. It tells how to prepare and package for freezing and storage, all kinds of meats, fruits, vegetables, and juices, listing in detail the methods and time required for freezing each food item.

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"Zero Storage In Your Home" is literally a sales manual for you. Read this book and your enthusiasm for this "new way of life" will jump to new heights. Order your copy today.

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Dear Sirs: Please send at once . . . . . copies of "Zero Storage in Your Home" by Boyden Sparkes. \$2.50 per copy.

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Name . . . . .

Company . . . . .

Street . . . . .

City . . . . . Zone . . . . . State . . . . .



## World Trade News:

**SOUTH BEND, Ind.**—Acting on the basis of more than 1,500 requests for franchises "from scores of countries over the globe," Bendix Home Appliances, Inc., is preparing to dispatch representatives abroad to screen applicants for distributorships as the initial step in formation of a world-wide export set up.

It was recently announced by Harlow K. Lyons, Bendix director of distribution, that distributorships will be established throughout continental Europe, South and Central America, and "a substantial scattering" of countries in other parts of the globe.

Mr. Lyons said Bendix will have representatives in foreign countries to investigate applicants for distributorships in preparation for the time when machines are available for export. Sample machines, at least, will be delivered to many countries by mid-1946, he declared, depending on production in the U. S.

Based on the estimate of "a reliable source in Argentina, first-year distribution of Bendix washers in that country will total between 500 and 1,000, according to Mr. Lyons. He predicted the market in the next year or two will range from 3,000 to 4,000 units annually.

A source in Honolulu was quoted as forecasting that "We can handle a carload a month for two or three years."

Bendix pointed out that "The same rigorous requirements for domestic distributors will apply to those in foreign lands. They must be financially responsible, must set up a separate department for merchandising the Bendix Automatic Home Laundry and must send a representative to the home office in South Bend, Ind., for training in sales and service."

Credit for "the unprecedented and widespread demand for Bendix franchises and machines" was given by Mr. Lyons to the company's advertising in publications with foreign circulation, buying missions coming to the United States, and word-of-mouth advertising carried to all parts of the globe by American servicemen.

### FHP Motors in Brazil

**BRAZIL** — Three-phase electric motors are now being manufactured by Empresas Reunidas de Indústria e Comércio Arno S. A., it is announced. Production of 1/4-hp. and 1/2-hp. units, the only two sizes now being turned out, is termed insufficient to meet demand.

### Mexican Market to Zoom

**WASHINGTON, D. C.**—By 1951, Mexico will have a market for electrical goods amounting to between \$25,000,000 and \$30,000,000, according to an estimate based on a recent survey of the country's needs. The survey, reported by the Department of Commerce, shows a current market equivalent to \$14,500,000.

Mexico's Minister of National Economy has announced that the Government is undertaking a large-scale electrification program which he said will be carried forward vigorously.

## Canadian Refrigeration Journal

The only publication servicing the industry in Canada

National Business Publications Limited  
Gardenvale, Que. - Canada

By comparison—  
You'll buy **PAR**  
REFRIGERATION EQUIPMENT  
Lynch  
WRITE FOR CATALOG  
MANUFACTURING CORPORATION  
DEFIANCE, OHIO, U. S. A.

## Bendix Preparing For World Export Program

### To Expand 'Reefer' Fleet

**CANBERRA, Australia**—Eight refrigerated ships costing an estimated £7,000,000 will be turned out during 1946 for Federal Steam Navigation Co. and New Zealand Shipping Co.

The vessels will have a total capacity for refrigerated cargo of between 900,000 and 950,000 cu. ft. and from 300,000 to 350,000 cu. ft. for general cargo. They will be used principally for transporting meat and dairy products from Australia and New Zealand to Great Britain.

First of the ships, one of 10,000 gross tons, was to be delivered in January, and another of the same size in June. The third, of 11,000 tons gross, will be completed in September. Five more have been contracted.

Although the two companies started expansion of their 37-ship refrigerated fleet before the war and added to it during hostilities, war losses cut the fleet to 24 vessels.

### Isolationist Trend Scored

**DETROIT**—In urging members of the Industrial Marketers of Detroit at a recent meeting to lend their day-by-day support to measures and activities aimed at promoting international trade and goodwill, John Kinsey, export manager of Micro-matic Hone Co., noted a trend toward a return to isolation with the warning, "God help us if we do."

Mr. Kinsey, who is also president of the Foreign Trade Club of Detroit, suggested that distrust among nations must be curbed and advocated conscientious understanding of the viewpoints and problems of other countries. He advised support of the United Nations, the Bretton Woods program, the proposed British loan ("It's a gamble but we ought to take it"), abolition of restrictive trade barriers and cartels, and development of both export and import.

Biggest market in the immediate future will be Russia, Mr. Kinsey said he believes. He predicted lifting of the sterling bloc by the end of the year.

All nations, Mr. Kinsey said, should be allowed and encouraged to produce the products they can turn out most efficiently and economically. In touching on the value of exportation, he pointed out that foreign trade losses are less than those in the domestic market, being around one half of one per cent.

William Hunt, of the Department of Commerce, another of the speakers on the program centered around export, described the various informational facilities of the department available to businessmen interested in obtaining data on foreign firms. Among these he mentioned are world trade directory reports, trade lists, and trade leads.

### Swedish Refrigerators

**SWEDEN**—Refrigerators and vacuum cleaners are among Swedish products being exported to Switzerland under a mutual trade arrangement.

### Panama Dairy Installation

**PANAMA**—When new equipment from the U. S. is installed in a Panama City dairy, the refrigeration room will have a capacity of 2,500 cu. ft., and the walls will be 8 in. thick, according to a report in the Foreign Commerce Weekly. This equipment will cut down from 15 minutes to 20 seconds the operation of pasteurizing, bottling, and depositing the milk in the cold room, the report said.

### Swiss Range Exportation

**GENEVA, Switzerland** — Swiss manufacturers are laying plans for the resumption of stove and range exportation, which reached moderate quantity during the prewar years, according to the Department of Commerce.

All types of cooking stoves and ranges are now being manufactured in several large Swiss factories, the department said. Despite the shortage of raw materials, the manufacturers are achieving relative success in turning out top grades of stoves, it was stated.

"Stoves using gas or coal as fuel continue to be the most popular types in Switzerland," the department's report said. "Electric stoves

and ranges are produced to some extent, and those using oil as fuel are few."

"Combination stoves employing more than one kind of fuel are reported to be increasingly popular, gas and coal being the favorite combination."

The department said the Swiss industry's volume in normal years is sufficient to meet all domestic demand. Annual production capacity of household gas cooking stoves is estimated at 15,000 units.

### New Crosley Distributors

**CINCINNATI** — Three Venezuelan and Puerto Rican firms were recently authorized to distribute products of The Crosley Corp., according to announcements by John W. DeLind, Crosley export director.

Crosley will be represented in Venezuela by Riquezes and Vis, of Caracas, and MacGregor and Co., of Maracibo. Martinez and Martinez, Inc., active since 1928 in industrial refrigeration and air conditioning, will handle Crosley products in San Juan, Puerto Rico.

In predicting that "the use of refrigeration and household refrigerators is destined to make great strides in the next few years" in Puerto Rico, Sr. Martinez said he believed a minimum of 10,000 household units would be sold on the island. He pointed out that the country is prosperous and that dealers are

"anxiously looking forward" to delivery of American products.

Joaquin MacGregor heads the Maracibo firm. Associated with him are two nephews, Jose and Juan Garcia MacGregor.

### Want Swiss Conditioners

**SWITZERLAND** — Larger orders from abroad and a reduced domestic market are reported by Swiss manufacturers of air conditioning plants and drying equipment.

### 'Made in India'

**WASHINGTON, D. C.**—A potential market for an estimated yearly increase of 50,000 radio sets over the 200,000 now in use in India is reported by the Department of Commerce. Quoting foreign press reports, the Department said all radio parts excepting valves can now be manufactured in that country.

### Cool Egyptian Engineers

**EGYPT** — Diesel electric express locomotives recently ordered by the Egyptian State Railways from the English Electric Co. (British) are air conditioned, according to Egyptian press reports.

### Russian Rubber Plant

**RUSSIA**—Kok-sagiz, a plant said to promise strong competition to the tropical rubber tree, is being cultivated on the collective farms of the Ukraine, the Moscow press reports. The plant, described as resistant to cold and disease, is reported to have a potential yield per acre almost equal to the tree providing the world's principal source of crude rubber.

### UK Electric Export Drops

**LONDON, England**—Official statistics recently released show that exports of electrical machinery, goods, and apparatus from the United Kingdom during the first half of 1945 decreased approximately 2,000,000 pounds in value as compared with the comparable period of 1944.

Value of imports increased 3,500,000 pounds.

### Surveys British Industry

**NEW YORK CITY**—Lewis M. Clement, vice president in charge of research and engineering, manufacturing division, The Crosley Corp., who has been making a survey of the British radio manufacturing industry, has returned by Pan-American plane from England.

Mr. Clement discussed and compared British and American radio manufacturing methods and facilities with heads of the radio industry in England. He made his headquarters at Grosvenor House.

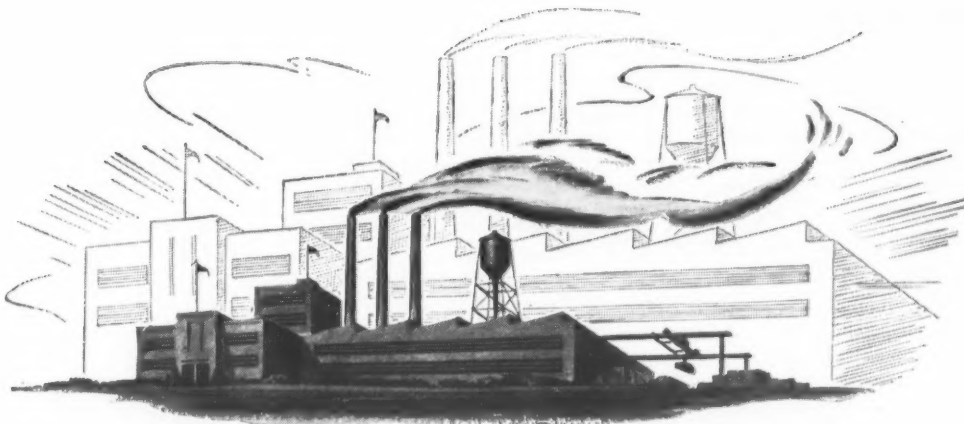
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- Immediate delivery

## GRUNOW

AUTHORIZED SERVICE, INC.  
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## How to GROW without EXPANDING



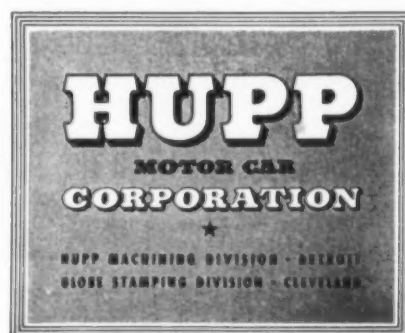
**YOU** can get your full share of today's business *without* over-expansion.

Modern high-production equipment backed by skilled labor and sound management in Hupp plants at Detroit and Cleveland can become a part of your production program for machined parts or stampings and assemblies. You could use your present plant for additional assembly or any other desired

operations. Instead of expanding to the point of future worry and financial concern, use Hupp facilities for the production necessary to your postwar growth.

Many leading manufacturers are using Hupp in exactly this way. They have found, as you will, that Hupp can gear itself into your production schedule as smoothly as your own best-managed department.

Write Hupp, in Detroit or Cleveland, or if speed is the word, call us for an engineer to discuss a prompt quotation.





## Strikes--

(Concluded from Page 1, Column 5)  
he met in conference with President Truman last weekend.

Declaring that in the company's negotiations on the wage question "the price consideration is the one hurdle we can't get over," he said that the prices of G-E products, on a weighted average basis, were only about 3% above the 1940 level.

Contrasted with that, he said, the company's wage offer would mean a 42% increase for male employees over 1940 pay levels, and a 50% increase for women. Materials costs were up about 10% above 1940, he said.

In the meantime, a strike in another industry turned up to badger the refrigeration and appliance fields. Walkouts at the American Brass Co., Chase Brass & Copper Co., and Scovill Co. in the "brass center of the world" area around Waterbury, Conn., threatened a shortage in vital brass and copper components. Bridgeport Brass Co. workers were threatening to go out on Feb. 11. Thus far, the strike had not affected brass and copper companies west of the Alleghenies.

### ELECTROLUX SHUTS DOWN

The steel strike has forced suspension of operations in the Servel Electrolux gas refrigerator cabinet division, shutdown for an indefinite period being reported. The gas refrigeration unit division is also being shut down, it is said.

Operations in the electric refrigeration and air conditioning divisions have been curtailed to five days a week.

The question of "how soon can the refrigeration and appliance plants get going after the strikes are settled" was partially answered in newspaper advertisements published during the past week by General Electric Co. answering the question of employees "how soon can I get back to work after the strike."

Following is what was said (in parts) in these advertisements:

"Probably about half of G-E employees can be put back to work within the first week after the strike is over. . . .

"Conditions aren't the same in all G-E plants, but here are a few examples of dislocations caused by the strike that will interfere with immediate work for everyone the day the strike ends.

### DELAYS EXPECTED

"Material Shortages—Material deliveries have been blocked during the strike. Scarce materials we had on order may have been diverted to other companies. We don't know. Office people who should be keeping track, will have to find out. Before production line workers can start, the flow of materials must be organized again.

"Shut-down Machines—Continuous processes, once stopped, require considerable time to get started again. Machines must be put in running condition. Maintenance and repair work will be a bottleneck. Until this work is done, some production jobs may be held up.

"Engineering Bottleneck—Even before the strike started, the shortage of designers and draftsmen put us behind on engineering instructions to our factories. In one plant, we could have put 3,000 more people to work if we'd only had the engineering instructions to tell us what to do. The strike has put plants further behind on this work.

"Orders Must Be Reviewed—Some customers may have switched their orders elsewhere, or may be unable to accept strike-delayed deliveries. Work on many contracts cannot be restarted without checking with customers.

"We are anxious to get back into production as quickly as possible, but dislocations caused by the strike are bound to be felt for a long time."

## Dealers--

(Concluded from Page 1, Column 4)

statement that prices may be subject to later revision by OPA. This move, it is said, will permit the dealers to take orders and payments against future deliveries and then be in a position to demand legally any difference in price that may exist at the time the appliance is available for delivery.

OPA officials warn, however, that possible future price increases probably will not apply to merchandise already on hand. A dealer, for example, who may already have refrigerators in warehouses for sale and delivery, cannot expect to hold them in hope of selling them at prices which might be higher in the near future.

Any such move would probably soon be detected, says OPA, through checking of dealers' invoices against tagged prices on appliances being displayed for sale. The units will probably have to be sold at the ceiling prices in effect when the dealer purchased the refrigerators.

The dealer who takes orders for future deliveries without warning his customers that the prices may be increased above the present ceiling could not legally demand that the customer pay the difference, it is believed.

In fact, if the dealer and consumer had entered into a contract, as it were, for the purchase of an appliance at the present price, the consumer could institute a civil suit against the dealer if he should refuse to deliver the appliance because the consumer won't pay the higher price.

Many dealers today are not taking advance orders beyond the number of appliances they are assured of receiving in the near future from their suppliers. It is felt, however, that most dealers would have little difficulty in persuading customers to take the appliances at the increased prices, in view of the extreme shortages which now exist.

## Brunner--

(Concluded from Page 1, Column 3)

The present re-organization will provide additional capital to add to the company's facilities and will permit it to expand to take care of the backlog of orders, the company says.

Purchase of an additional building and machinery has also been announced by Brunner. Much of the machinery is being tooled up for special purposes, and when installed will add greatly to the production facilities and permit closer control of manufacturing processes, the company believes.

Full effect of these improvements in manufacturing capacity probably won't be felt in 1946, Brunner management thinks. Although orders on hand are being filled as rapidly as possible, there are still bottlenecks in gray iron castings, motors, steel, and electrical parts. Effects of the present strikes will probably be felt for some time to come, Brunner officials say.

## Climax Gets All Rights To 'Roto Beam' Units

CLINTON, Iowa—Exclusive manufacturing and selling rights for "Roto Beam" radiant air circulators have been granted to the Climax Engineering Co. here.

All patterns, jigs, fixtures and machines, equipment, and inventory of the Roto Beam Co. of Chicago were purchased outright by Climax for world-wide manufacturing and selling, it was announced by John W. Peterson.

Production began last month on previously announced products, but "Roto Beam" manufacturing schedules have not been announced.

## 16% Price Boost Okayed For Balley Co. Line

BALLY, Pa.—A 16% increase in Bally Case & Cooler Co.'s Oct. 1, 1941, net prices for its refrigerated display cases, coolers, and similar fixtures was authorized in a recent OPA price adjustment order.

Use of the increase is optional. If prices figured on this basis are less than those determined under MPR 591, Bally may continue to use current ceilings.

Resellers—except manufacturers who purchase these products for use in the manufacture of other products—may raise their existing maximum prices to cover the actual dollars-and-cents boost in cost resulting from the manufacturer's increase.

Discounts and allowances are to be comparable to those granted on similar commodities on Oct. 1, 1941.

These adjustments are authorized by Order 52 under Supplementary Order 119. All requests for price relief not granted in the order were denied.

## Falcon Distributing Co. Formed in Huntington, W. Va.

CHARLESTON, W. Va.—A charter has been issued by the West Virginia secretary of state to Falcon Distributing Co., Inc., Huntington, to deal in electrical appliances. The new firm has \$5,000 capital, authorized and \$1,000 paid in. Incorporators are listed as E. E. Sturm, C. M. Sturm, and Ann G. Sturm, all of Huntington.

## Wagner Electric Shifts Branch Managers

ST. LOUIS—Wagner Electric Corp. announces branch manager and sales territory changes in its electrical sales division.

The Kansas City territory has been divided into two parts. The southern portion, comprising Texas, Oklahoma, and parts of New Mexico, Arkansas, and Louisiana, is now the Houston branch office territory, with

sub-offices at Dallas and Tulsa, with L. J. Dicianne as branch manager.

The northern portion continues to be known as the Kansas City branch office territory and is now limited to Kansas and Nebraska and the western halves of Iowa and Missouri, with A. G. Viola as branch manager. Mr. Viola was transferred from the Pittsburgh territory.

J. L. Pasher, for many years manager of the Pittsburgh Automotive Division branch territory, is now in charge of both the electrical and automotive divisions there.

## MEETINGS FOR THE INDUSTRY

Feb. 21-22, Thurs-Fri: National Association of Refrigerated Warehouses. The Edgewater Beach, Chicago.

Feb. 25-28, Mon-Thurs: National Assn. of Home Builders. The Stevens, Chicago.

March 4-7, Mon-Thurs: Spring REMA meeting, including joint sessions with REWA. The Stevens, Chicago.

March 17-18, Sun-Mon: Annual Interprovincial RSES Convention. King Edward Hotel, Toronto, Ontario, Canada.

March 27-31, Wed-Mon: 5th annual convention of the Frozen Food Institute. Park Ave. Armory, 34th St. at Park Ave., New York City.

April 2-4, Tues-Thurs: 12th annual sales conference of EEL. The Edgewater Beach, Chicago.

April 21-25, Sun-Thurs: 37th annual convention of NEWA. The Stevens, Chicago.

April 22-27, Mon-Sat: National Plastics Exposition and Convention of Society of the Plastics Industry. Grand Central Palace, New York City.

April 27-May 19: Products of Tomorrow Exposition. The Chicago Coliseum (on the south fringe of the Loop), Chicago.



## BY YOUR LOCAL SHEET METAL SHOP

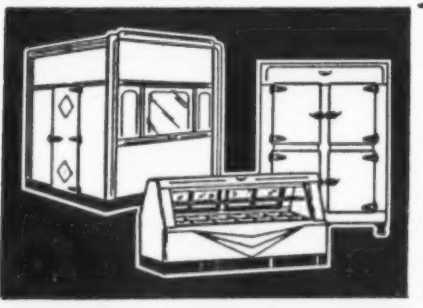
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num; drips cause no stains. Aluminum is highly resistant to corrosion, usually requiring no protective painting; upkeep costs are low. The light weight of aluminum simplifies installation, holding support loadings to a minimum. ALUMINUM COMPANY OF AMERICA, 1975 Gulf Building, Pittsburgh 19, Pennsylvania.

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